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(54) Title: DIAGNOSIS OF SYSTEMIC LUPUS ERYTHEMATOSUS

(57) Abstract: Loci having methylation sites relevant to the diagnosis of SLE, as well as related methods and reagents, are disclosed.

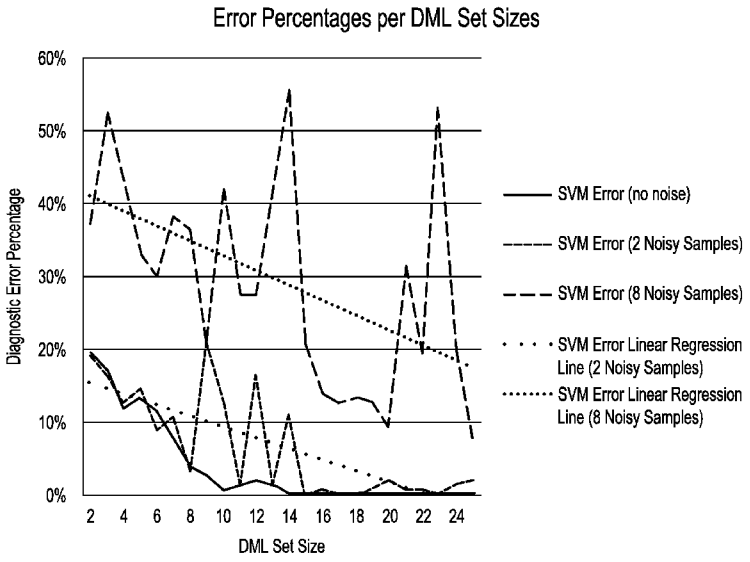

Figure 3: Decline in Error Rate as Panel size increases

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DIAGNOSIS OF SYSTEMIC LUPUS ERYTHEMATOSUS

REFERENCE TO SEQUENCE LISTING, TABLE, OR COMPUTER PROGRAM LISTING

[0001] Tables 1A, 1B, 2A, 2B, 3A, 3B, and 4 precede the listing of the claims of this application.

RELATED APPLICATIONS

[0002] The present application claims priority to Provisional U.S. Application Serial No. 61/668,939, filed July 6, 2012, and also claims priority to Provisional U.S. Application Serial No. 61/776,729, filed March 11, 2013.

FIELD OF THE INVENTION

[0003] Embodiments of the present invention include methods, compositions and kits for the diagnosis of a subject with a disorder such as Systemic Lupus Erythematosus.

BACKGROUND OF THE INVENTION

[0004] Epigenetic mechanisms such as DNA methylation play a fundamental role in the etiology of autoimmune diseases by modulating the methylation state and transcriptional activity of critical genes that affect immune maturation and function and lead to the development of autoimmunity. The identification of the key differentially methylated loci may provide novel biomarkers for diagnostics.

[0005] Systemic Lupus Erythematosus (SLE) or lupus is an autoimmune disorder where immune cell abnormalities lead to the production of autoantibodies by B-cells and auto-reactive T-cells that contribute to disease pathology (Crispin J.C., Liossis S.N., Kis-Toth K., et al. (2010) *Pathogenesis of human systemic lupus erythematosus: recent advances*. Trends Mol. Med. 16: 47–57; Kammer G.M., Perl A., Richardson B.C., Tsokos G.C. (2002) *Abnormal T cell signal transduction in systemic lupus erythematosus*. Arthritis Rheum. 46:1139–1154; Tsokos G.C., (2011) *Systemic Lupus Erythematosus*. N. Engl. J. Med. 365: 2110-2121; Perl A., Fernandez D.R., Telarico T., Doherty E., Francis L., Phillips P.E. (2009) *T-cell and B-cell signaling biomarkers and treatment targets in lupus*. Curr. Opin. Rheumatol. 21: 454–464; Perl A. (2010) *Systems biology of lupus: mapping the impact of*

genomic and environmental factors on gene expression signatures, cellular signaling, metabolic pathways, hormonal and cytokine imbalance, and selecting targets for treatment. Autoimmunity 43: 32–47; Pernis A.B. (2009) *Th17 cells in rheumatoid arthritis and systemic lupus erythematosus*. J. Intern. Med. 265: 644–652). The aberrant autoimmune response of lupus spares no organ or tissue, with the involvement of the skin, brain, blood, cardiovascular system, and kidneys in most patients. The chronic, uncontrolled autoimmune attack on the body's vital organs is often accompanied by life threatening complications (Tsokos G.C., (2011) *Systemic Lupus Erythematosus*. N. Engl. J. Med. 365: 2110-2121). The prevalence of SLE ranges from 20 to 150 cases per 100,000 individuals and appears to be increasing as the disease is recognized more readily and survival increases. In the United States, people of African, Hispanic, or Asian ancestry, as compared with those of other racial or ethnic groups, tend to have an increased prevalence of SLE with greater severity. Furthermore, the vast majority of SLE patients are women of childbearing age (nine out of ten patients are women), making it even more critical to develop diagnostic tools that enable earlier and more precise treatment (Pons-Estel G.J., Alarćon G.S., Scofield L., Reinlib L., Cooper G.S. (2010) *Understanding the epidemiology and progression of systemic lupus erythematosus*. Semin. Arthritis Rheum 39:257-68; Mindy S. Lo and George C. Tsokos, (2012) *Treatment of systemic lupus erythematosus: new advances in targeted therapy*. Ann. N.Y. Acad. Sci. 1247:138-152).

[0006] The complex etiology and pathogenesis of autoimmune diseases such as lupus is known to involve both genetic predisposition and environmental factors (Duarte C., Couto M., Ines L., Liang M.H. *Epidemiology of systemic lupus erythematosus*. In: Lahita RG, Tsokos G, Buyon J, Koike T, eds. (2011) *Systemic lupus erythematosus*. 5th ed. London: Elsevier, 673-96). Because concordance rates for SLE in genetically identical twins are only 11 – 40%, there is an upper limit to the genetic contribution to SLE. Thus, factors other than genetics, such as environmental and lifestyle factors (infections, toxins, inflammation, diet, chemicals, hormones) that can cause epigenetic changes may play a role in SLE pathogenesis (Wesley H. Brooks, Christelle Le Dantec, Jacques-Olivier Pers, Pierre Youinou, Yves Renaudineau, (2010) *Epigenetics and autoimmunity*. Journal of Autoimmunity 34:J207-J219; Ballestar, Esteban (2010) *Epigenetics Lessons from Twins: Prospects for Autoimmune Disease*. Clinic. Rev. Allerg. Immunol. 39:30–41; Farga M.F., Ballestar E., Paz M.F., Ropero

S., Setien F., Ballestar M.L., et al. (2005) *Epigenetic differences arise during the lifetime of monozygotic twins*. Proc. Natl. Acad. Sci. USA 102: 10604–9; Jaenisch R., Bird A., (2003) *Epigenetic regulation of gene expression: how the genome integrates intrinsic and environmental signals*. Nat. Genet. 33:245-54; Biola M. Javierre, Agustin F. Fernandez, Julia Richter, Fatima Al-Shahrour, J. Ignacio Martin-Subero, Javier Rodriguez-Ubreva, Maria Berdasco, Mario F. Fraga, Terrance P. O'Hanlon, Lisa G. Rider, Filipe V. Jacinto, F. Javier Lopez-Longo, Joaquin Dopazo, Marta Forn, Miguel A. Peinado, Luis Carreno, Amr H. Sawalha, John B. Harley, Reiner Siebert, Manel Esteller, Frederick W. Miller, and Esteban Ballestar, (2010) *Changes in the pattern of DNA methylation associate with twin discordance in systemic lupus erythematosus*. Genome Res. 20: 170-179).

[0007] Epigenetics or non-coding DNA changes affect the potential of the genome to be expressed and may have a significant impact on human diseases as a result of environmental factors that cause epigenetic changes (Bjornsson, H. T., M. D. Fallin, A. P. Feinberg, (2004) *An integrated epigenetic and genetic approach to common human disease*. Trends Genet. 20: 350-358; Torst, Jorg, (2010) *DNA methylation: An introduction to the biology and the disease-associated changes of a promising biomarker*. Mol. Biotechnol. 44:71-81; Manel Esteller, (2008) *Epigenetics in Cancer*. NEJM 358(11):1148-1159; Vardhman K. Rakyan, Thomas A. Down, David J. Balding and Stephan Beck, (2011) *Epigenome-wide association studies for common human diseases*. Nature Reviews Genetics 12:529-541; Anna Portela and Manel Esteller, (2010) *Epigenetic modifications and human disease*. Nature Biotechnology 28(10):1057-1068; Richardson, B. (2007) *Primer: epigenetics of autoimmunity*. Nature Clin. Practice Rheum. 3(9):521-527; Van der Maarel S.M. (2008) *Epigenetic mechanisms in health and disease*. Ann Rheum Dis 67:97-100; Pons D., de Vries F.R., van den Elsen P.J., Heijmans B.T., Quax P.H., Jukema J.W. (2009) *Epigenetic histone acetylation modifiers in vascular remodeling: new targets for therapy in cardiovascular disease*. Eur. Heart J. 30:266-77) including SLE (Feinberg A.P. (2007) *Phenotypic plasticity and the epigenetics of human disease*. Nature. 447:433-40; Q. Lua, X. Qiu, A. N. Hua, H. Wena, Y. Sua, B.C. Richardson, (2006) *Epigenetics, disease, and therapeutic interventions*. Ageing Research Reviews 5:449–467; Lars C. Huber, Joanna Stanczyk, Astrid Jungel, and Steffen Gay, (2007)). Because epigenetic mechanisms are key regulators of gene expression,

they can serve as a marker of the phenotype and function of cells in normal and pathologic conditions.

[0008] Methylation is a dominant regulator of epigenetic mechanisms of gene regulation and also controls chromatin remodeling and generation of microRNAs, which in turn can also regulate gene expression and biologic functions (Ilias Alevizos and Gabor G. Illei, (2010) *MicroRNAs as biomarkers in rheumatic diseases*. Nat. Rev. Rheumatol. July 6(7): 391–398; Xiao C, Rajewsky K., (2009) *MicroRNA control in the immune system: basic principles*. Cell 136:26-36; Jody C. Chuang, Peter A. Jones, (2007) *Epigenetics and MicroRNAs*. Pediatric Research 61 (5):24R-29R; Esteller, M., G. Almouzni, (2005) *How epigenetics integrates nuclear functions*. EMBO Rep. 6:624-628). Increased DNA Methylation (hypermethylation patterns) that occurs in transcription promoter sites within cytosine-guanine (CpG) islands can often cause increased gene *suppression, while decreased* or decreased DNA Methylation (hypomethylation patterns) that occurs in transcription promoter sites within cytosine-guanine (CpG) islands can often cause increased gene *expression* (Torst, Jorg, (2010) *DNA methylation: An introduction to the biology and the disease-associated changes of a promising biomarker*. Mol. Biotechnol. 44:71-81). Specific methylation patterns for cells are replicated or maintained during cell division by a family of enzymes known as DNA Methyltransferases (DNMTs). DNMTs are regulated by signal transduction pathways within cells, which are responsive to normal growth regulating proteins, but are also influenced by other external environmental factors such as diet, drugs, toxins, infectious agents and pathologic situations (e.g., inflammation), (Richardson, B. (2007) *Primer: epigenetics of autoimmunity*. Nature Clin. Practice Rheum. 3(9):521-527). Aberrant methylation and epigenetic controls can therefore lead to inappropriate increase or decrease in gene expression and protein production which is now being implicated in the pathogenesis of a number of diseases (Torst, Jorg, (2010) *DNA methylation: An introduction to the biology and the disease-associated changes of a promising biomarker*. Mol. Biotechnol. 44:71-81; Diamandis, E., (2010) *Epigenomics-Based Diagnostics*, Clinical Chemistry, 56(8):1216-1219; Laird, P. W. (2003) *The power and the promise of DNA methylation markers*. Nature Rev. Cancer; 3:253–266).

[0009] The DNA methylation signatures within cells are considered to be a novel and important source of molecular markers for SLE and other autoimmune diseases

(*Epigenetics in Inflammatory Rheumatic Diseases*. Arthritis and Rheumatism. 56; 3523–353; Richardson, B. (2003) *DNA methylation and autoimmune disease*. Clin. Immunol. 109:72-9; Dipak R. Patel, Bruce C. Richardson, (2010) *Epigenetic Mechanisms in Lupus*. Curr. Opin. Rheumatol. 22(5):478-482).

[0010] DNA methylation profiling has great potential to help in the diagnosis for autoimmune diseases such as Systemic lupus erythematosus (SLE; Martín-Subero JI, Esteller M (2011) *Profiling epigenetic alterations in disease.* Adv Exp Med Biol. 711:162-77. Review. PMID: 21627049; Rakyan VK, Hildmann T, Novik KL, Lewin J, Tost J, Cox AV, Andrews TD, Howe KL, Otto T, Olek A, Fischer J, Gut IG, Berlin K, Beck S (2004) *DNA methylation profiling of the human major histocompatibility complex: a pilot study for the human epigenome project*. PLoS Biol. 2(12):e405. Epub 2004 Nov 23. PMID: 15550986; Suzuki H, Toyota M, Kondo Y, Shinomura Y (2009) *Inflammation-related aberrant patterns of DNA methylation: detection and role in epigenetic deregulation of cancer cell transcriptome*. Methods Mol Biol. 512:55-69. doi: 10.1007/978-1-60327-530-9_5. PMID: 19347273; Lu Q, Qiu X, Hu N, Wen H, Su Y, Richardson BC (2006) *Epigenetics, disease, and therapeutic interventions.* Ageing Res Rev. 5(4):449-67. Epub 2006 Sep 11. Review. PMID: 16965942; Patel DR, Richardson BC (2010) *Epigenetic mechanisms in lupus*. Curr Opin Rheumatol. 22(5):478-82. doi: 10.1097/BOR.0b013e32833ae915. Review. PMID: 20445453; Sekigawa I, Kawasaki M, Ogasawara H, Kaneda K, Kaneko H, Takasaki Y, Ogawa H (2006) *DNA methylation: its contribution to systemic lupus erythematosus*. Clin Exp Med. 6(3):99-106. Review. PMID: 17061057; *Strickland FM, Richardson BC (2008) Epigenetics in human autoimmunity. Epigenetics in autoimmunity - DNA methylation in systemic lupus erythematosus and beyond.* Autoimmunity. 41(4):278-86. doi: 10.1080/08916930802024616. Review. PMID: 18432408; Zhao S, Long H, Lu Q (2010) *Epigenetic perspectives in systemic lupus erythematosus: pathogenesis, biomarkers, and therapeutic potentials*. Clin Rev Allergy Immunol. 39(1):3-9. doi: 10.1007/s12016-009-8165-7. Review. PMID: 19639427; Balada E, Ordi-Ros J, Vilardell-Tarrés M. (2007) *DNA methylation and systemic lupus erythematosus*. Ann N Y Acad Sci. 1108:127-36. Review. PMID: 17893979; Hedrich CM, Tsokos GC (2011) *Epigenetic mechanisms in systemic lupus erythematosus and other autoimmune diseases*. Trends Mol Med. 17(12):714-24. doi: 10.1016/j.molmed.2011.07.005. Epub 2011 Aug 30. Review. PMID: 21885342; Brena RM,

Huang TH, Plass C. (2006) *Quantitative assessment of DNA methylation: Potential applications for disease diagnosis, classification, and prognosis in clinical settings*. J Mol Med (Berl). 84(5):365-77. Epub 2006 Jan 17. Review. PMID: 16416310). Patterns of methylation may help identify patients at risk or help identify those with autoimmune diseases, which are often hard to definitively diagnose by other methods. The identification of methylation changes that affect biological process may help illuminate the disease pathogenesis, aiding in diagnosis.

[0011] Of the autoimmune diseases, dysregulated epigenetic mechanisms are most clearly involved in SLE. Drugs that induce lupus-like disorders in mice and humans (e.g., 5-azacytidine, hydralazine, procainamide) are known to cause demethylation of DNA at promoter regions, leading to enhanced gene expression (Dipak R. Patel, Bruce C. Richardson, (2010) *Epigenetic Mechanisms in Lupus*. Curr. Opin. Rheumatol. 22(5):478-482; Yung, R. L., J. Quddus, C. E. Chrisp, K. J. Johnson, B. C. Richardson, (1995) *Mechanism of drug-induced lupus. I. Cloned Th2 cells modified with DNA methylation inhibitors in vitro cause autoimmunity in vivo*. J. Immunol. 154: 3025-3035). Molecular studies have demonstrated these agents decrease the activity or expression of methyltransferases, leading to hypomethylated DNA, a feature seen in lupus patients. Ultraviolet light induces the protein GADD45a, which removes methyl groups from DNA at sites of DNA damage and repair. GADD45a is elevated in CD4+ T-cells from lupus patients compared to controls (Dipak R. Patel, Bruce C. Richardson, (2010) *Epigenetic Mechanisms in Lupus*. Curr. Opin. Rheumatol. 22(5):478-482; Li Y., Zhao M., Yin H., et al. (2010) *Gadd45a overexpression contributes to autoimmunity by promoting DNA demethylation in lupus T cells*. Arthritis Rheum. 62(5):1438-47). The hypomethylation of key CpG regions is known to lead to overexpression of immune regulatory genes and their products, leading to the pathogenic mechanisms, which are hallmarks of lupus. These include CD70 and CD40 ligands, which up-regulate the activation of auto-reactive B-cells producing antibodies, auto-reactive T-cells producing lytic molecules (perforin, interferon) or expressing killer immunoglobulin like receptors (KIRs) which contribute to the killing of monocytes and other cells in lupus patients (Lu, Q., M. Kaplan, D. Ray, D. Ray, S. Zacharek, D. Gutsch, B. Richardson, (2002) *Demethylation of ITGAL (CD11a) regulatory sequences in systemic lupus erythematosus*. Arthritis Rheum. 46:1282-1291; Lu, Q., A. Wu, B. C. Richardson, (2005) *Demethylation of the same promoter*

sequence increases CD70 expression in lupus T cells and T cells treated with lupus-inducing drugs. J. Immunol. 174:6212-6219; Kaplan, M. J., Q. Lu, A. Wu, J. Attwood, B. Richardson, (2004) *Demethylation of promoter regulatory elements contributes to perforin overexpression in CD4+ lupus T cells*. J. Immunol. 172: 3652-3661; Oelke K, Lu Q, Richardson D, et al. (2004) *Overexpression of CD70 and overstimulation of IgG synthesis by lupus T cells and T cells treated with DNA methylation inhibitors*. Arthritis Rheum. 506:1850–1860; Basu D., Liu Y., Wu A., et al. (2009) *Stimulatory and inhibitory killer Ig-like receptor molecules are expressed and functional on lupus T cells*. J. Immunol. 1835:3481–3487). Activity of many of these genes is correlated with SLE disease manifestation as measured by the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) severity score or other acceptable clinical scoring system, which measures SLE severity in an individual (Bombardier C., Gladman D.D., Urowitz M.B., Caron D., Chang C.H. (1992) *Derivation of the SLEDAI. A disease activity index for lupus patients*. The Committee on Prognosis Studies in SLE. Arthritis Rheum 35: 630–640; Petri M et al. (2012) *Derivation and Validation of Systemic Lupus International Collaborating Clinics Classification Criteria for Systemic Lupus Erythematosus*. Arthritis Rheum May 2, PMID: 22553077) and are associated with lupus flares (Li Y., Zhao M., Yin H., et al. (2010) *Gadd45a overexpression contributes to autoimmunity by promoting DNA demethylation in lupus T cells*. Arthritis Rheum 62(5):1438-47). Abnormal methylation is demonstrating profound effects on immune cells from lupus patients, including signal transduction (Sunahori K, Juang Y.T., Tsokos G.C. (2009) *Methylation status of CpG islands flanking a cAMP response element motif on the protein phosphatase 2Ac alpha promoter determines CREB binding and activity*. J. Immunol. 1823:1500–1508; Gorelik G., Richardson B. (2009) *Aberrant T cell ERK pathway signaling and chromatin structure in lupus*. Autoimmun. Rev. 8(3):196-8; Katsue Sunahori, Yuang-Taung Juang, Vasileios C. Kyttaris, and George C. Tsokos (2011) *Promoter Hypomethylation Results in Increased Expression of Protein Phosphatase 2A in T Cells from Patients with Systemic Lupus Erythematosus*. J. Immunol 186:4508-4517), transcription factor regulation of gene expression (Zhao, M., Y. Sun, F. Gao, X. Wu, J. Tang, H. Yin, Y. Luo, B. Richardson, and Q. Lu. (2010) *Epigenetics and SLE: RFX1 downregulation causes CD11a and CD70 overexpression by altering epigenetic modifications in lupus CD4(+) T cells*. J. Autoimmun. 35 (1): 58–69), cell receptor activation

(Lu, Q., M. Kaplan, D. Ray, D. Ray, S. Zacharek, D. Gutsch, B. Richardson (2002) *Demethylation of ITGAL (CD11a) regulatory sequences in systemic lupus erythematosus*. Arthritis Rheum. 46:1282-1291; Lu, Q., A. Wu, B. C. Richardson, (2005) *Demethylation of the same promoter sequence increases CD70 expression in lupus T cells and T cells treated with lupus-inducing drugs*. J. Immunol. 174: 6212-6219), and regulation of splice variant isoforms of regulatory molecules (Garaud S., Le Dantec C., Jousse-Joulin S., Hanrotel-Saliou C., Saraux A., Mageed R.A., et al. (2009) *IL-6 modulates CD5 expression in B cells from patients with lupus by regulating DNA methylation*. J. Immunol. 182:5623-32). Cytokines (IL-1, IL-6) (Wong C.K., Ho C.Y., Li E.K., Lam C.W. (2000) *Elevation of proinflammatory cytokine (IL-18, IL-17, IL-12) and Th2 cytokine (IL-4) concentrations in patients with systemic lupus erythematosus*. Lupus 9: 589–593) possibly induced by environmental insults and response of the innate immune system (dendritic cells or monocytes) have been shown to suppress methylation enzymes thus leading to hypomethylation and abnormal gene expression by immune cells (Mindy S. Lo and George C. Tsokos, (2012) *Treatment of systemic lupus erythematosus: new advances in targeted therapy* Ann. NY Acad. Sci. 1247:138-152; Garaud S, Le Dantec C, Jousse-Joulin S, Hanrotel-Saliou C, Saraux A, Mageed RA, et al. (2009) *IL-6 modulates CD5 expression in B cells from patients with lupus by regulating DNA methylation*. J. Immunol. 182:5623-32).

[0012] Previous DNA methylation studies in SLE were descriptive, not covering the genome broadly, and focused on a few candidate genes and their functional relevance (Biola M. Javierre, Agustin F. Fernandez, Julia Richter, Fatima Al-Shahrour, J. Ignacio Martin-Subero, Javier Rodriguez-Ubreva, Maria Berdasco, Mario F. Fraga, Terrance P. O'Hanlon, Lisa G. Rider, Filipe V. Jacinto, F. Javier Lopez-Longo, Joaquin Dopazo, Marta Forn, Miguel A. Peinado, Luis Carreno, Amr H. Sawalha, John B. Harley, Reiner Siebert, Manel Esteller, Frederick W. Miller, and Esteban Ballestar, (2010) *Changes in the pattern of DNA methylation associate with twin discordance in systemic lupus erythematosus*. Genome Res. 20: 170-179; Q. Lu a, X. Qiu a, N. Hua, H. Wena, Y. Sua, B.C. Richardson, (2006) *Epigenetics, disease, and therapeutic interventions*. Ageing Research Reviews 5:449–467; Dipak R. Patel, Bruce C. Richardson, (2010) *Epigenetic Mechanisms in Lupus*. Curr. Opin. Rheumatol. 22(5):478-482; Oelke K., Lu Q., Richardson D., et al. (2004) *Overexpression of CD70 and overstimulation of IgG synthesis by lupus T cells and T cells treated with DNA*

methylation inhibitors. Arthritis Rheum. 506:1850–1860; Zhao M., Tang J., Gao F., Wu X., Liang Y., Yin H. et al. (2010) *Hypomethylation of IL10 and IL13 promoters in CD4+ T cells of patients with systemic lupus erythematosus*. J. Biomed. Biotechnol. 2010: 931018; S.Y. Lin, S.C. Hsieh, Y.C. Lin, C.N. Lee, M.H. Tsai, L.C. Lai, E.Y. Chuang, P.C. Chen, C.C. Hung, L.Y. Chen, W.S. Hsieh, D.M. Niu, Y.N. Su and H.N. Ho, (2011) *A whole genome methylation analysis of systemic lupus erythematosus: hypomethylation of the IL10 and IL1R2 promoters is associated with disease activity*. Genes and Immunity 13(3):214-20; Zhu X., Liang J., Li F., Yang Y., Xiang L., Xu J., (2011) *Analysis of associations between the patterns of global DNA hypomethylation and expression of DNA methyltransferase in patients with systemic lupus erythematosus*. Int. J. Dermatol. 50(6):697-704). They also did not include an in-depth analysis of the diagnostic power of a global systems approach to DNA methylation analysis (Hariklia Eleftherohorinou, Clive J. Hoggart, Victoria J. Wright, Michael Levin, and Lachlan J. M. Coin (2011) *Pathway-driven gene stability selection of two rheumatoid arthritis GWAS identifies and validates new susceptibility genes in receptor mediated signalling pathways*. Human Molecular Genetics 20 (17): 3494–3506; Chaussabel D., Quinn C., Shen J., Patel P., Glaser C., et al. (2008) *A modular analysis framework for blood genomics studies: application to systemic lupus erythematosus*. Immunity 29:150–164; Da Wei Huang, Brad T. Sherman and Richard A. Lempicki, (2008) *Systematic and integrative analysis of large gene lists using DAVID bioinformatics resources*. Nature Protocols 4:44-57).

SUMMARY OF THE INVENTION

[0013] Some embodiments disclosed herein comprise methods of diagnosis of SLE in a mammalian subject. Some embodiments comprise one or more of the steps of comprising the steps of: isolating DNA from a patient; determining a methylation status of a panel of loci of DNA from said patient; and collectively analyzing the methylation status of the loci in the panel using a computer to ascertain a likelihood that the patient has SLE

[0014] In some embodiments the panel comprises a methylation site specified in Table 2A. In some embodiments the panel comprises a methylation site specified in Table 2B. In some embodiments the panel comprises a methylation site specified in Table 3A. In some embodiments the panel comprises a methylation site specified in Table 3B. In some

embodiments the panel comprises a methylation site specified in Table 1A. In some embodiments the panel comprises a methylation site specified in Table 1B. In some embodiments the panel comprises a methylation site specified in Table 4.

[0015] In some embodiments the locus comprises 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of the methylation site.

[0016] In some embodiments the DNA is isolated from a source selected from the list comprising: free circulating DNA, DNA isolated from urine, DNA isolated from blood, DNA isolated from blood cells, DNA isolated from other body fluid, DNA isolated from other body tissue.

[0017] In some embodiments the DNA is isolated from at least one peripheral blood mononuclear cell. The peripheral blood mononuclear cell may be selected from a group comprising: T-cells, B-cells, monocytes, Th1 cells, Th2 cells, Th17 cells, T-regs, NK cells, B1 cells, B2 cells, M1 and M2 monocytes or dendritic cells.

[0018] In some embodiments determining a methylation pattern comprises chemical treatment of DNA extracted from at least one cell that differentially affects methylated and unmethylated bases. The treatment can comprise bisulfite treatment, and the determining can comprise amplification of a fragment of DNA comprising a locus having a methylation site.

[0019] The methylation site can be a methylation site specified in any one or more of Table 2A or 2B or Table 3A or 3B. In some embodiments a locus is amplified. The locus amplified can comprise 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of the methylation site. The amplified DNA can be contacted with an oligonucleotide probe that distinguishes between bisulfite treated methylated and bisulfite treated unmethylated DNA. In some embodiments the methylation site is additionally a methylation site listed in Table 4.

[0020] In some embodiments the methylation status of a panel of loci may be determined. The panel may comprise at least one locus from Table 1A. The panel may comprise at least one locus from Table 1B. The panel may comprise at least one locus from Table 2A. The panel may comprise at least one locus from Table 2B. The panel may comprise at least one locus from Table 3A. The panel may comprise at least one locus from Table 3B. The panel may comprise a locus of Table 4. The panel can comprise 5, 10, 20, 50

or more than 50 loci, for example 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, or more than 50 loci. The panel may comprise 25 loci. The status may be compared to that of a corresponding locus in a sample from a non-SLE source.

[0021] In some embodiments the method of SLE diagnosis further comprises determining the status of one or more of the loci from at least one of Table 1A, 1B, 2A, 2B, 3A or 3B in combination with traits selected from the list comprising: SNP or gene variation or copy number status, levels of auto-antibodies such as anti-dsDNA antibodies or anti-nuclear antibodies, and serum proteins such as cytokine or chemokine levels or inflammatory molecules.

[0022] In some embodiments the method of SLE diagnosis further comprising analyzing in the computer the status of one or more of the traits selected from the list comprising: SNP or gene variation status, levels of auto-antibodies such as anti-dsDNA antibodies or anti-nuclear antibodies, and serum proteins such as cytokine or chemokine levels or inflammatory molecules together with analyzing the methylation status of the loci in the panel.

[0023] Some embodiments disclose methods for detecting methylation events at one or more methylation sites set forth in at least one of Table 2A or 2B or Table 3A or 3B, which comprises subjecting a human sample to chemical treatment that differentially affects methylated bases of said human sample, and ascertaining the extent of methylation of a panel of regions comprising at least one region of a locus of a methylation site specified in at least one of Table 2A or 2B or Table 3A or 3B as an indicator of SLE status based on said differential effect.

[0024] In some embodiments, the treatment comprises contacting said locus with bisulfite. In some embodiments the panel comprises at least 5 loci. In some embodiments the panel comprises at least 10 loci. In some embodiments the panel comprises at least 25 loci. In some embodiments the panel comprises at least 50 loci. In some embodiments the panel comprises at least a methylation site of Table 4. In some embodiments the panel comprises 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more than 50 loci.

[0025] Some embodiments disclose a method of diagnosis of SLE in a mammalian subject comprising the steps of: isolating at least one cell from a patient; determining a transcript accumulation level of transcripts from a panel of genes corresponding to three or more of the loci in Tables 1A, 1B, 2A, 2B, 3A and 3B, identified from said at least one cell; and collectively analyzing the methylation status of the loci in the panel using a computer to ascertain a likelihood that the patient has SLE. In some embodiments at least one gene is identified in Table 1A. In some embodiments at least one gene is identified in Table 1B. In some embodiments at least one gene is identified in Table 2A. In some embodiments at least one gene is identified in Table 2B. In some embodiments at least one gene is identified in Table 3A. In some embodiments at least one gene is identified in Table 3B. In some embodiments, the gene is within 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site. In some embodiments the methylation site is additionally listed in Table 4.

[0026] In some embodiments the transcripts are isolated from at least one peripheral blood mononuclear cell. The peripheral blood mononuclear cell may be selected from a group comprising: T-cells, B-cells, monocytes, Th1 cells, Th2 cells, Th17 cells, T-regs, NK cells, B1 cells, B2 cells, M1 and M2 monocytes, or dendritic cells.

[0027] In some embodiments the accumulation levels of a panel of loci may be determined. The panel may comprise at least one locus from Table 1A. The panel may comprise at least one locus from Table 1B. The panel may comprise at least one locus from Table 2A. The panel may comprise at least one locus from Table 2B. The panel may comprise at least one locus from Table 3A. The panel may comprise at least one locus from Table 3B. In some embodiments the methylation site is additionally listed in Table 4.

[0028] The panel can comprise 5, 10, 25, 50 or more than 50 loci, for example 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, or more than 50 loci. The levels may be compared to that of a corresponding locus in a sample from a non-SLE source.

[0029] In some embodiments the method may comprise comparing said accumulation level to that of a corresponding transcript in a non-SLE cell, or comparing said accumulation level to that of a corresponding transcript in an SLE cell.

[0030] Some embodiments disclose methods of diagnosis of SLE in a mammalian subject comprising the steps of: isolating at least one peripheral blood mononuclear cell from a patient; isolating a protein fraction from said at least one cell; determining a protein accumulation level or protein activity from a protein extract from said at least one cell; and diagnosing whether the patient has SLE based on said determination.

[0031] Some embodiments disclose methods for evaluating SLE in a mammalian subject. Some embodiments disclose methods for evaluating SLE in a mammalian subject comprising: measuring the accumulation level or activity level of each of a panel of proteins in a sample comprising peripheral blood mononuclear cells of the subject, wherein each of the proteins is encoded by a gene that is identified by a methylation site in Table 2A, Table 2B, Table 3A or Table 3B; and collectively analyzing the measured levels in the panel using a computer to ascertain a likelihood that the patient has SLE.

[0032] In some embodiments the protein is encoded by a gene identified in Table 2A, or a gene within 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site in Table 2A. In some embodiments the protein is encoded by a gene identified in Table 2B, or a gene within 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site in Table 2B. In some embodiments the protein is encoded by a gene identified in Table 3A, or a gene within 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site in Table 3A. In some embodiments the protein is encoded by a gene identified in Table 3B, or a gene within 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site in Table 3B. In some embodiments the protein is isolated from at least one peripheral blood mononuclear cell. The peripheral blood mononuclear cell may be selected from a group comprising: T-cells, B-cells, monocytes, Th1 cells, Th2 cells, Th17 cells, T-regs, NK cells, B1 cells, B2 cells, M1 and M2 monocytes or dendritic cells. In some embodiments the methylation site is additionally listed in Table 4.

[0033] In some embodiments the assay comprises differential antibody binding, and may further comprise comparing said protein accumulation level or activity to that of a corresponding protein in a non-SLE cell or an SLE cell. A protein accumulation level or protein activity level may be determined. The panel can comprise 5, 10, 20, 25, 50 or more

than 50 proteins, for example 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, or more than 50. The levels may be compared to that of a corresponding protein in a sample from a non-SLE source or an SLE source.

[0034] In some embodiments the protein accumulation level or protein activity from a protein extract from a panel of proteins identified from said at least one cell is determined. The panel may comprise protein accumulation level or protein activity identified with at least one locus selected from the list of loci in Table 2A. The panel may comprise protein accumulation level or protein activity identified with at least one locus selected from the list of loci in Table 2B. The panel may further comprise protein accumulation level or protein activity identified with at least one locus selected from the list of loci in Table 3A. The panel may further comprise protein accumulation level or protein activity identified with at least one locus selected from the list of loci in Table 3B. The panel may further comprise protein accumulation level or protein activity identified with at least one locus selected from the list of loci in Table 1A. The panel may further comprise protein accumulation level or protein activity identified with at least one locus selected from the list of loci in Table 1B. In some embodiments the methylation site is additionally listed in Table 4.

[0035] Some embodiments comprise methods of characterizing a potential SLE disease status in a subject. In some embodiments the methods comprise the steps of ascertaining the methylation status of a panel comprising at least 3 methylation sites in DNA from a mammalian subject, wherein said methylation sites are differentially methylated in individuals with SLE; electronically comparing in a computer values reflective of said methylation status of said panel of methylation sites with stored information reflective of methylation status of methylation sites in at least one standard population; generating a report based on said comparison relative to said potential autoimmune disease; and providing said report to a caregiver or to said subject; wherein said at least 3 methylation sites are selected from the methylation sites listed in Tables 1A, 1B, 2A, 2B, 3A, and 3B.

[0036] In some embodiments the panel comprises a methylation site of Table 2A. In some embodiments the panel comprises a methylation site of Table 2B. In some embodiments the panel comprises a methylation site of Table 3A. In some embodiments the panel comprises a methylation site of Table 3B. In some embodiments the panel comprises a

methylation site of Table 1A. In some embodiments the panel comprises a methylation site of Table 1B. In some embodiments the panel comprises a methylation site of Table 4.

[0037] Some embodiments disclose a method for the diagnosis of Systemic Lupus Erythematosus (SLE) comprising: (a) determining the extent of methylation at a plurality of DNA loci in a sample taken from an individual; (b) evaluating individual or combined values reflective of the extent of methylation at said loci; and (c) providing a report based on the evaluation of step (b) that includes information regarding SLE status of the individual. In some embodiments the evaluating step comprises processing values reflective of methylation at said loci in a computer and comparing said processed values to values known to be reflective of SLE status.

[0038] In some embodiments a locus to be evaluated may be selected from Table 2A. In some embodiments a locus to be evaluated may be selected from Table 2B. In some embodiments a locus to be evaluated may be selected from Table 3A. In some embodiments a locus to be evaluated may be selected from Table3B. In some embodiments a locus to be evaluated may be selected from Table1A. In some embodiments a locus to be evaluated may be selected from Table 1B. In some embodiments a locus to be evaluated may be selected from Table 4. The locus to be evaluated may be part of a panel of 5, 10, 20, 25, 50 or more than 50 loci, for example 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more than 50 loci.

[0039] Some embodiments disclose a set of primers, comprising a first PCR primer pair capable of amplifying a first locus of human chromosomal DNA in a PCR reaction; and a second PCR primer pair capable of amplifying a second locus of human chromosomal DNA in a PCR reaction, wherein the first locus is identified in Table 2A. Some embodiments disclose a set of primers, comprising a first PCR primer pair capable of amplifying a first locus of human chromosomal DNA in a PCR reaction; and a second PCR primer pair capable of amplifying a second locus of human chromosomal DNA in a PCR reaction, wherein the first locus is identified in Table 2B. The set of primers may further comprise: a third primer pair capable of amplifying a third locus of human chromosomal DNA in a PCR reaction; wherein the first, second, and third loci are differentially methylated in a human having SLE versus a human not having SLE. The second locus may be identified

in Table 3A. The second locus may be identified in Table 3B. The second locus may be identified in Table 1A. The second locus may be identified in Table 1B. The loci may comprise 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site in Table 2A. The loci may comprise 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, or 10kb on either side of a methylation site in Table 2B. In some embodiments the locus is additionally listed in Table 4.

[0040] Some embodiments disclose a kit for the diagnosis of SLE in a mammalian subject comprising a plurality of DNA reagents, at least one said reagent capable of distinguishing between methylated and unmethylated DNA from a locus listed in Table 2A upon subjecting said DNA to a treatment that differentially affects methylated bases. Some embodiments disclose a kit for the diagnosis of SLE in a mammalian subject comprising a plurality of DNA reagents, at least one said reagent capable of distinguishing between methylated and unmethylated DNA from a locus listed in Table 2B upon subjecting said DNA to a treatment that differentially affects methylated bases. The kit may comprise an oligonucleotide, and the treatment may comprise a chemical modification, such as bisulfite modification. The kit may comprise a plurality of different reagents, each capable of distinguishing between methylated and unmethylated DNA at a respective locus listed in Table 2A, and may further comprise reagents capable of distinguishing between methylated and unmethylated sites of one or more of Table 1A or Table 1B or Table 3A or 3B. The kit may comprise a plurality of different reagents, each capable of distinguishing between methylated and unmethylated DNA at a respective locus listed in Table 2B, and may further comprise reagents capable of distinguishing between methylated and unmethylated sites of one or more of Table 1A or Table 1B or Table 3A or 3B.In some embodiments the locus is additionally listed in Table 4.

[0041] Some embodiments disclose an isolated DNA molecule having a sequence spanning a methylation site of Table 2A. Some embodiments disclose an isolated DNA molecule having a sequence spanning a methylation site of Table 2B. Some embodiments disclose an isolated DNA molecule having a sequence spanning a methylation site of Table 3A. Some embodiments disclose an isolated DNA molecule having a sequence spanning a methylation site of Table 3B. Some embodiments disclose an isolated DNA molecule having a sequence which anticipates the sequence of the vicinity of a methylation site of Table 2A.

Some embodiments disclose an isolated DNA molecule having a sequence which anticipates the sequence of the vicinity of a methylation site of Table 2B. Some embodiments disclose an isolated DNA molecule having a sequence which anticipates the sequence of the vicinity of a methylation site of Table 3A. Some embodiments disclose an isolated DNA molecule having a sequence which anticipates the sequence of the vicinity of a methylation site of Table 3B. Some embodiments comprise a sequence spanning the vicinity of any of the above loci upon chemical modification to identify methylation status, wherein said modified form is an expected product of a reaction whereby an isolated DNA molecule comprising a locus identified in at least one of Table 2A or 2B or Table 3A or 3B having a methylation signature characteristic of SLE or having a methylation signature characteristic of the absence of SLE is subjected to treatment that differentially affects methylated bases. The treatment may comprise treatment with bisulfite. The molecule may comprise at least 14 nucleotide bases, for example 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 or more than 35 bases. Some embodiments disclose a panel of molecules like those discussed above. The panel may comprise 5, 10, 20, 25, 50 or more than 50 DNA molecules, for example 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more than 50 loci. In some embodiments the locus is additionally listed in Table 4.

BRIEF DESCRIPTION OF THE DRAWINGS

[0042] Figure 1: Combining Differentially Methylated Loci (DMLs) may produce better performing models. Error rate is defined as an SLE sample being assigned a non-SLE phenotype or a non-SLE phenotype being assigned an SLE-phenotype. Combining the DMLs indicated reduces the Error Rate from about 14% for three separate DML sets to 3% for a single combined DML set. DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (as defined by the University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to a CpG on the + and/or the – strand.

[0043] Figure 2: Error rate declines as DML set size increases. Error rate is defined as an SLE sample being assigned a non-SLE phenotype or a non-SLE phenotype

being assigned an SLE-phenotype. Model Scoring Methodology: Per DML set size, the 16 sample PBMC data set was randomly split into two equally sized data sets, a training data set and a test data set. The model was trained using the training data set and was scored based on its ability to predict the phenotypes of the test data. This process was repeated 10 times. Using more DML to determine disease phenotypes improves models' error rates, which can also be described in terms of specificity and sensitivity. For the "2 noisy sample" analysis, two samples were selected at random and Gaussian noise was added to their methylation frequency values. Similarly, for the "8 noisy sample" analysis, eight samples were selected at random and Gaussian noise was added to their methylation frequency values. The artificial addition of Gaussian noise to a DML set increases diagnostic error percentage (as expected), but this effect was counteracted by the addition of DMLs to the total set size. DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or the – strand.

[0044] Figure 3: Graphical Depiction of Decline in Error Rate as Panel size increases. Dotted lines indicate linear regressions of datasets for which Gaussian error is artificially introduced to simulate flaws in input data sets. Error percentage linear regressions decrease with an increase in DML set size.

DETAILED DESCRIPTION

[0045] The methods, gene panels and other material disclosed herein provide a novel means for the diagnosis of SLE. In the following detailed description, illustrative embodiments are not meant to be limiting. Other embodiments may be utilized, and other changes may be made, without departing from the spirit or scope of the subject matter presented here. It will be readily understood that the aspects of the present disclosure, as generally described herein, and illustrated in the Figures, can be arranged, substituted, combined, and designed in a wide variety of different configurations, all of which are explicitly contemplated and make part of this disclosure.

Determining Methylation patterns

[0046] It is one aspect of many embodiments of the present invention that methylation patterns, particularly 5-methylcytosine methylation patterns, of the nucleic acids of certain cells or cell populations, or other DNA reservoirs may be determined. A number of methods for the determination of cytosine methylation status are known to one of skill in the art. For example, bisulfite mapping may be used. Through this process, extracted DNA is treated with a bisulfite as part of a process that differentially converts cytosine unmethylated at the C5 position to uracil, while leaving 5-methyl cytosine unaffected. Other methods for the determination of methylation status at one or more cytosine positions are also know in the art, and embodiments disclosed herein are not limited to any particular method of determining methylation status at a particular locus to the exclusion of any other method.

[0047] In some embodiments an array such as an ILLUMINA HumanMethylation 450 BeadChip may be used to determine a methylation status (Sandoval, et al., (2011) *Validation of a DNA methylation microarray for 450,000 CpG sites in the human genome.* Epigenetics 6:6, 692-702). In some embodiments, the sequencing method may comprise one or more technologies such as pyrosequencing, e.g., the '454' method' (Margulies et al., (2005) *Genome sequencing in microfabricated high-density picolitre reactors.* Nature 437:376-380; Ronaghi, et al. (1996) *Real-time DNA sequencing using detection of pyrophosphate release.* Anal. Biochem. 242:84-89), 'Solexa' or Illumina-type sequencing (Fedurco et al., (2006), *BTA, a novel reagent for DNA attachment of glass and efficient generation of solid-phase amplified DNA colonies.* Nucleic Acid Research 34, e22; Turcatti et al. (2008), *A new class of cleavable fluorescent nucleotides: synthesis and optimization as reversible terminators for DNA sequencing by synthesis.* Nucleic Acid Research 36, e25), SOLiD sequencing technology (Shendure, J. et al. (2005) *Accurate multiplex polony sequencing of an evolved bacterial genome.* Science 309, 1728–1732; McKernan, K. et al, (2006) *Reagents, methods, and libraries for bead-based sequencing.* US patent application 20080003571), Heliscope Technology (Harris, T.D. et al. (2008) *Single-molecule DNA sequencing of a viral genome.* Science 320, 106–109), Ion Torrent Technology (Rothberg et al., (2011) *An integrated semiconductor device enabling non-optical genome sequencing.* Nature 475, 348-352), SMRT Sequencing Technology (Pacific Biosciences; http://www.pacificbiosciences.com/products/smrt-technology/), or GridION nanopore-based

sequencing (Oxford Nanopore Technologies; http://www.nanoporetech.com/technology/the-gridion-system/the-gridion-system). In some embodiments any number of so-called 'next generation' DNA sequencing methods may be used, as described in Shendure and Ji, "*Next-generation DNA sequencing*", Nature Biotechnology 26(10):1135-1145 (2008) or in other art available to one of skill in the art. Other methods for the determination of DNA sequence are also known in the art, and embodiments disclosed herein are not limited to any particular method of determining base identity at a particular locus to the exclusion of any other method.

[0048] In some embodiments, methods for assaying the methylation status, particularly the 5-methyl cytosine methylation status, at one or more loci may include randomly shearing or fragmenting genomic DNA, cutting with a methylation-dependent or methylation sensitive restriction endonuclease, of which many are known to one of skill in the art, and analyzing the resultant DNA fragments. In some embodiments analysis may involve amplification of nucleic acids. In some embodiments this amplification can be performed using gene or locus specific primers, or using primers specific to, for example, adapters that may be added to the ends of fragmented DNA. In some embodiments, the DNA may be amplified using a quantitative PCR protocol, such as one that allows for real time quantification of amplification products. *See, e.g.*, U.S. Patent No. 7,186,512; U.S. Patent Application Ser. Nos. 10/971,986; 11/071,013; and 10/971,339; U.S. Pat. Nos. 6,180,349; 6,033,854; and 5,972,602, Gibson et al., Genome Research 6:995-1001 (1996); DeGraves, et al., Biotechniques 34(1):106-10, 112-5 (2003); and Deiman B., et al., Mol. Biotechnol. 20(2):163-79 (2002). In some embodiments, methods for detecting DNA methylation may involve genomic sequencing before and after treatment that differentially affects methylated bases. See, e.g., Frommer et al., (1992) Proc. Natl. Acad. Sci. USA 89:1827-1831. Additional methylation detection methods include methods described in, for example, the following references: Toyota et al., Cancer Res. 59:2307-12 (1999), U.S. Patent Publication 2005/0069879; Rein, et al. Nucleic Acids Res. 26 (10): 2255-64 (1998); Olek, et al. Nat. Genet. 17(3): 275-6 (1997); and PCT Publication No. WO 00/70090.; Herman et al., (1996) Proc. Natl. Acad. Sci. USA 93:9821-9826; U.S. Pat. No. 5,786,146; Gonzalgo & Jones, Nucleic Acids Res. 25:2529-2531 (1997).

[0049] There are a number of ways known in the art in which a methylation assay may be run to obtain data for use in some embodiments. One set of methods is predicated upon methylation-specific changes in hybridization efficiency that result from bisulfite treatment. For example, a PCR primer that specifically anneals to a methylation site may be used in a PCR amplification reaction wherein the amplification efficiency is dependent upon either the methylation status or the identity of the base following bisulfite treatment. By comparing the amplification efficiency of treated versus untreated DNA templates, or by comparing amplification directed by a treated template as compared to a treated, unmethylated control template sequence, one may be able to determine the methylation status of the differentially methylated locus in the primer annealing region. Amplification efficiency may be assayed by the generation of a signal, such as light, in proportion to the concentration of double-stranded DNA during the course of a PCR reaction. Alternately, a signal may be generated by the binding of an oligonucleotide probe, such as a labeled probe, to a region spanning a methylation site of interest.

[0050] Alternate methods of assaying for the outcome of bisulfite treatment on a sample may be used. For example, chemical differences between methylated and unmethylated DNA that manifest themselves after bisulfite treatment may be indicative of substrate sequence after bisulfite treatment and, by inference, methylation status before treatment. One such difference, the melting temperature of a double-stranded DNA molecule, may be assayed using, for example, high-resolution melt analysis using techniques known in the art.

[0051] Methods which do not rely upon bisulfite treatment may also be used, such as chromatographic, biological, or spectrographic means. DNA to be assayed may, for example, be contacted with proteins that preferentially bind methylated or unmethylated sequences (e.g., MBD binding proteins or antibodies such as MeDIP). Measurement of signals, such as light, that correspond to quantities of isolated methylated or unmethylated sequences may be used to assay methylation status of the assayed DNA sequence. DNA may be bound by proteins which trigger transcription in the vicinity of the methylation site as an alternate reporter of methylation status. Other reporter mechanisms are contemplated.

[0052] DNA sequences may be sequenced directly, either after bisulfite treatment or after methylation-based separation as discussed above. Any of the sequencing methods

known in the art may be used, including those mentioned above. Embodiments are not limited by the sequencing method used, and sequencing innovations may be incorporated into various embodiments as the sequencing innovations become available to those of skill in the art.

[0053] Sequencing methods which assay for methylation directly on input sequences may also be used. For example, measurable transcription rate changes may be used to determine methylation status at specific bases (e.g., single molecule real time (SMRT) sequencing), or spectrographic or electric field measurements may be used to discriminate between methylated and unmethylated bases during single molecule sequencing such as nanopore sequencing.

[0054] Sequencing methods may target individual methylation sites or loci to assay. Targeted regions may be amplified or preserved in processes that degrade sequences not of interest. Alternately, methylation sites of interest may be sequenced as part of whole-genome sequencing efforts whereby all or substantially all sequence information in a DNA sample is determined.

[0055] In some embodiments the cell population from which DNA is to be assayed is peripheral blood mononuclear cells. In some embodiments the cell population is selected from a group comprising T cells, B cells and monocytes. In some embodiments the cell population from which DNA is to be assayed is a subset of T-cells (such as Th1, Th2, Th17, T-regs, NK cells), a subset of B-cells (such as B1, B2) or a subset of monocytes (such as M1 and M2 monocytes and dendritic cells) [see Littman and Rudensky (2010) *Th17 and regulating T cells in mediating and restraining inflammation*. Cell 140:845-858; Lo and Tsokos (2011) *T cells in Systemic Lupus Erythematosus*. The Rheumatologists; Allman and Pillai (2008) Peripheral B cell subsets. Curr. Opin. Immunol. 20(2):149-157; Gordon and Taylor (2005) *Monocyte and macrophage heterogeneity*. Nat. Rev. Immunol. 5:953-964; MacDonald et al.(2002) *Characterization of human blood dendritic cell subsets* 100(13):4512-4520]. Cells from any of these groups may be obtained using any of a number of methods known to those of skill in the art (see, e.g., Mallone et al., (2011) *Isolation and preservation of peripheral blood mononuclear cells for analysis of islet antigen-reactive T cell responses: position statement of the T-Cell Workshop Committee of the Immunology of Diabetes Society*. Clin. Exp. Immunol. 163(1):33-49). Embodiments disclosed herein are not

limited to any particular method of cell or DNA isolation method to the exclusion of any other.

[0056] DNA may be extracted from cells using any of a number of methods known in the art. The DNA extraction method will preferably substantially preserve the methylation pattern of the extracted DNA and yield DNA of a purity and integrity suitable for downstream analysis, but is not otherwise limited. If peripheral blood mononuclear cells are used as a DNA source, the extraction method should be appropriate to these cells. Alternately, free circulating DNA from, for example, the blood, urine, other body fluid, or other tissue of a patient may be used as a sample source.

[0057] In some embodiments, methylation patterns determined for one or more of the above cell populations may be compared to methylation patterns determined from similar cell types in one or more individuals with a known SLE status (such as positive for SLE or negative for SLE), or from one or more different cell populations taken from the same or different individuals compared to the individual to be diagnosed.

[0058] In some embodiments an increase or decrease in the methylation state, relative to a reference methylation state, of at least one locus from a cell or population of cells of an individual to be diagnosed may be indicative of that individual's SLE status. In some embodiments, the methylation status of at least one locus from a cell or population of cells of an individual to be diagnosed may be determined and then normalized to the methylation status of a control locus to control for error in detection methods that may otherwise impact a diagnosis as to the presence or absence of SLE. Appropriate control loci or control techniques are known to one of skill in the art.

[0059] In some embodiments, the methylation patterns may be deduced by determining the methylation status, for example the presence of 5-methyl cytosine, of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 125, 150, 175, 200, 250, 300, 350, 400, 450, 500, 750, 1000, 2000, 3000, 4000, or more than 4000 methylation sites.

Use of Loci in Connection With SLE

[0060] Some embodiments disclosed herein relate to the diagnosis, typing, or prognosis of SLE in an individual based in part on the methylation status at a set of loci, or a "panel" from a restricted population of cells from that individual. Disclosed herein are Tables of loci provided for the purpose, among others, of enabling the diagnosis, typing, or prognosis of SLE in an individual. The Tables list Differentially Methylated Loci (hereinafter "DMLs") corresponding to methylation sites at which the inventors have discovered a correlation between extent of status in an isolated cell population such as PBMCs, T Cells, B Cells, Monocytes, or cells from whole blood, and SLE status. The cell population of origin from which each DML was identified is indicated in each table as appropriate. Loci are sorted into tables as follows.

[0061] Given the number of methylation sites reported herein, these data represent a substantial contribution to the understanding of SLE above and beyond the utility of these methylation sites as constituents in diagnostic panels in the context of SLE diagnosis.

[0062] **Table 1A and 1B.** DML reported in Tables 1A and 1B identify loci corresponding to sites for which a previously-reported association between methylation status and SLE exists, but which were independently identified and reported herein. Importantly, the list of sites for which a previously-reported association between methylation status and SLE exists is substantially greater than the list of DML in Table 1. That is, Tables 1A and 1B represent a specific subset of DML which, although previously reported as methylation sites related to SLE, have been affirmed herein to have a diagnostic value not uniformly present in SLE-associated sites reported in the literature.

[0063] Tables 2A, 2B, 3A and 3B disclose DMLs corresponding to methylation sites at which the inventors have discovered an association between methylation status and SLE status.

[0064] **Tables 2A and 2B.** DML reported in Tables 2A and 2B identify loci for which no previous association between methylation status at the listed sites and SLE was reported, and for which no previous association between the associated loci and SLE was reported. That is, Tables 2A and 2B report novel DML which identify novel loci in the context of SLE.

[0065] **Tables 3A and 3B.** DML reported in Tables 3A and 3B identify loci for which no previous association between methylation status at the listed sites and SLE was reported, but for which a previous association between the associated loci and SLE has been reported.

[0066] Panels comprising DML selected at random from Tables 1A-3B have been observed and are reported herein to demonstrate performance characteristics substantially above the performance characteristics of randomly selected panels of methylation sites that are not known to be differentially methylated in the context of SLE. Accordingly, a randomly selected panel of DML from any of Tables 1A, 1B, 2A, 2B, 3A and 3B will substantially outperform a random panel of DML not known to be implicated in SLE diagnosis in an assay for the presence of an SLE methylation in an individual.

[0067] **Table 4.** DML reported in Table 4 represent a subset of the DML reported in Tables 1A, 1B, 2A, 2B, 3A, 3B, above. DML listed in Table 4 have been observed in some embodiments to contribute to panels having performance characteristics substantially above the performance characteristics of randomly selected panels of loci selected from one or more of Tables 1A, 1B, 2A, 2B, 3A and 3B, which in turn have performance characteristics substantially above the performance characteristics of randomly selected panels of loci not associated with SLE diagnosis.

[0068] In some embodiments, a set of loci where methylation status is relevant to an SLE diagnosis is selected from among the loci listed in Table 2A. In some embodiments, a set of loci where methylation status is relevant to an SLE diagnosis is selected from among the loci listed in Table 2B. In some embodiments, a set of loci where methylation status is relevant to an SLE diagnosis is selected from among the loci listed in Table 3A. In some embodiments, a set of loci where methylation status is relevant to an SLE diagnosis is selected from among the loci listed in Table 3B. In some embodiments this set of loci may be additionally supplemented by at least one locus selected from the loci listed in Table 1A. In some embodiments this set of loci may be additionally supplemented by at least one locus selected from the loci listed in Table 1B. In some embodiments this set of loci comprises at least a locus listed in Table 4.

[0069] In some embodiments a methylation site or sites listed in any one or more of Tables 2A, 2B 3A and 3B may be used as guides to direct a researcher, medical

professional or other interested party to determine the methylation status of a locus marked by a listed methylation site. In some embodiments this locus may comprise 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, 10kb, or more than 10kb on either side of a methylation site listed in Table 2A, or 2B or Table 3A or 3B. In some embodiments the methylation site is additionally listed in Table 4.

[0070] We have shown significant association between the differential methylation of loci in Table 2A or 2B and SLE. The associations and correlations include positive correlations and negative correlations – in other words, at some loci, methylation is associated with SLE, and at other loci, a lack of methylation is associated with SLE. Changes at these loci, and patterns of changes at these loci, can be used to help differentiate between SLE and many other conditions that have overlapping symptomology, sequelae or clinical presentation.

[0071] Methylation status is a matter of degree, wherein some bases at a particular locus will be methylated in one cell and unmethylated in another cell. Thus, a determination of methylation status not only includes ascertaining whether an individual locus on an individual chromosome is methylated, but also can include determining the extent of methylation at that locus across a population of cells. Although methylation status at a single locus has value in diagnosis and prognosis of SLE, combinations of loci have enhanced diagnostic and prognostic value. Thus, various embodiments include assays in which at least one of the loci in Table 2A is analyzed, together with one or more additional loci. Various embodiments include assays in which at least one of the loci in Table 2B is analyzed, together with one or more additional loci. In some embodiments the methylation site is additionally listed in Table 4.

[0072] Using multiple loci for a diagnosis or prognosis can significantly enhance both sensitivity and specificity and better characterize a complex disease such as SLE. Figure 1 presents an example wherein combining information from multiple DMLs produces better performing models than do uncombined data sets. In this figure, three separate sets of three DML each may be used to diagnose SLE with an error rate of about 14%. When all nine DMLs are analyzed in combination, this error rate is reduced to 3%, representing a substantial increase in the accuracy and therefore the utility of the test.

[0073] Figures 2 and 3 illustrate that the incremental increase in DML panel size leads to an incremental decrease in the error rate (to a limit of 0%) for both clean and artificially 'noisy' data sets into which statistical deviation has been introduced. Figure 2 illustrates that, with the addition of each novel DML (with some modest degree of statistical variation) the error rate decreases as compared to the set lacking that additional DML. Figure 3 graphically illustrates this result, showing that despite local variation in error rates (particularly in samples for which statistical deviation has artificially been introduced), the overall trend as represented by the regression lines indicates a clear decrease in error rate with an increase in the DML set used, towards an asymptote at an error rate approaching zero. Figure 3 also shows a diminishing rate of performance improvement upon addition of DML to an already high performing panel.

[0074] SLE is a diagnosis that covers many clinical subtypes (e.g., disease stages, organs involved in the pathology), and it is expected that a single locus may not be able to discriminate across these subtypes with acceptable sensitivity and specificity. The multiplex design of the described assay is intended to cover the inherent biological heterogeneity arising from the complex nature of the disease. For example, assume a process critical to SLE pathogenesis can be redundantly activated by a set of genes. Then a methylation change in the promoter regions of any one of these genes would be sufficient to activate this process. Another example is when a process has redundancies such that the down regulation of a single gene is insufficient to down regulate the entire process. However, the down regulation of all redundantly functioning genes will lead to the down regulation of the activity of the process itself. A multiplex assay would be able to detect changes in any of these SLE-associated genes while a single DML assay would not. Also, the methylation state of a single DML may still be informative when integrated with other non-methylation data such as transcription profiles and genomic profiles.

[0075] There are a number of advantages to determining and evaluating the methylation status of panels of loci rather than single loci. For example, an assay that uses a panel detects not only the single loci that may have strong prognostic or diagnostic value in comparing SLE or pre-SLE samples to non-SLE samples, but it also detects the subtle deviations in methylation status at diagnostic loci that may not be individually statistically

significant enough to warrant a diagnosis, but can cumulatively lead to a clear diagnosis of SLE or a risk of developing SLE. See again Figures 1-3.

[0076] Methylation status of a panel of loci from a selected cell type in an individual to be diagnosed may be compared to the methylation status of the same loci of a control individual, control tissue or a composite value derived from analysis of a control population of prior samples. Diagnosis may be based upon the extent of difference in methylation status at individual loci selected from within a panel, or may be based on deviations from the control methylation pattern in the aggregate. Thus a single locus, which shows a great difference in methylation status between a test sample and a control, may be sufficient to diagnose SLE or a risk of SLE. However, better sensitivity and specificity can usually be accomplished by evaluating panel results in the aggregate. Such a diagnosis may involve noting that a test sample presents a number of loci, which differ in methylation status only subtly, from a control, but where these differences collectively support a diagnosis of SLE. Statistical evaluation of the aggregate results of a panel assay may be performed using a complex algorithm and performed on a computer. This evaluation may include use of a weighting algorithm in which certain loci are weighted differently than others, or any other algorithm derived from analysis of patient data that gives the desired specificity and sensitivity. By assaying a panel of loci and by evaluating the resulting methylation patterns in the aggregate, one may detect SLE-specific patterns despite the fact that no individual locus demonstrates a methylation status that, evaluated in isolation, would have a desired level of sensitivity and specificity sufficient to warrant an SLE or pre-SLE diagnosis.

[0077] A number of algorithms for combining results from multiple loci to reach a diagnosis may be used. For example, classification models may be used to assign probabilities of phenotypes to samples. These models include: Naive Bayes, Generalized Linear Model, Neural Network, Random Forest, and Support Vector Machine (SVM) models. Each of these models is considered to be an algorithm, and each is known in the art. This list is not limiting; other algorithms may be used to combine the results of multiple loci to reduce noise or improve specificity or sensitivity. The model's input is a list of methylation values at a panel of methylation sites, transcript accumulation levels, or protein accumulation levels or activity levels. The output is a list of phenotype-specific values that

can be transformed into probabilities. The phenotype with the highest probability is assigned to the sample.

Selecting Loci for Inclusion in a Panel

[0078] A variety of criteria may be used to determine which loci to include in a given panel. Constituents of a panel may be selected using a statistical ranking method whereby methylation sites statistically correlated with disease status may be selected for inclusion. A panel may comprise, for example, loci with methylation statuses that are individually strong indicators of SLE or a risk of SLE, for example due to a consistently large difference in methylation status between SLE and non-SLE individuals. Such a panel may be useful when a statistically very strong signal is needed (i.e., a statistical signal that may be generated from loci the methylation status of which differs greatly, such as from near zero to near 1, in samples from SLE or pre-SLE cells compared to non-SLE controls). A strong signal may be needed, for example, when relatively little starting material is available or when there is reason to believe that a sample may have degraded to some extent. Figures 2 and 3, for example, simulate the effect of degradation of sample quality through the introduction of artificial statistical noise, and demonstrate that increasing the DML sample size may overcome this noise.

[0079] In many cases, a panel may advantageously include multiple loci that are not strong indicators of SLE on an individual basis, but which in combination produce a robust indication of (or correlation with) SLE and improve the clinical diagnostic utility. In one embodiment, loci from a number of processes are included, such as 2, 3, 4, 5, 6, 7, 8, 9, or more processes. Often, even individually weak signals from multiple processes can collectively provide a strong signal to diagnose the presence or absence of SLE.

[0080] In one embodiment, a panel is selected based on population studies that in the aggregate can provide a desired level of sensitivity and specificity over the broad population, so that a single assay can be commercialized that is appropriate for all patients. In another embodiment, assays can be tailored for a particular population based on gender, age, ethnicity, or any other result-effective variable. Thus, there may be a panel of assays from which one may select the assay most appropriate for any particular patient. In this case, a computer can be used to select an appropriate assay based on relevant patient data.

[0081] Methylation sites may also be selected for inclusion or exclusion based on criteria other than those above. For example, loci may be selected based in part on the degree of allelic variation at the site or in the immediate region of an identified methylation site. The presence of multiple alleles at or near a methylation site may complicate data acquisition or analysis by affecting the primers necessary for amplification, the probe sequence necessary to assay a site, or the sequence to be derived from a site, for example. Alternately, a methylation site at or near a locus wherein alleles of said locus correspond to differential SLE diagnoses may be included in some panels because the assay technique, such as sequencing, may easily be able to obtain and incorporate any allelic information obtained into the data used to generate a final determination.

[0082] Methylation sites may be selected for inclusion based on their utility within a specific population or ethnic group rather than their utility among patients at large. Thus panels may be selected to maximize the diagnostic efficacy as to a specific patient demographic, such as women (for whom methylation sites located on the Y-Chromosome are unlikely to be informative), or specific genetically similar ethnic groups (which may present allelic frequencies at one or more given loci that differ from the frequencies of humanity as a whole, and which may affect the utility of one or more methylation sites as panel constituents). See, e.g., John Butler (2006) "Genetics and Genomics of Core Short Tandem Repeat Loci Used in Human Identity Testing," J. Forensic Sci. 51(2): 253-265.

[0083] One or more control loci may be included in a panel. These loci are not known to demonstrate a change in methylation status in SLE or pre-SLE samples compared to non-SLE samples. The assay of the methylation status of one or more control loci may be useful as a measure of the reliability of the results obtained from a given sample analysis. External control loci that are not present in the human genome (e.g., synthetic oligos) may be included as controls. The methylation values of these control loci may change relative to SLE or pre-SLE patients but since they are not from the human genome, they will not be mistaken as patient data.

[0084] In some embodiments, the methylation patterns may be deduced by determining the methylation status, for example the presence of 5-methyl cytosine, of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53,

54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 125, 150, 175, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1500, 2000, 2500, 3000, 3500, 4000, or more than 4000 loci from at least one of Table 2A or 2B or Table 3A or 3B. Additionally, in some embodiments, the methylation patterns may be deduced by determining the methylation status, for example the presence of 5-methyl cytosine, of at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B in addition to the methylation patterns from the one or more loci of Table 2A or 2B or Table 3A or 3B, above.

[0085] In some embodiments, the selection of at least one locus of at least one of Table 2A or 2B or Table 3A or 3B may comprise a panel. In some embodiments the panel may further comprise at least one locus of at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least one locus of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least two loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least three loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least four loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least five loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least six loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least seven loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least eight loci of Table 2A

or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least nine loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least ten loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least eleven loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least twelve loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least thirteen loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least fourteen loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least fifteen loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least sixteen loci of Table 2A or 2B or Table 3A or 3B and 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least seventeen loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least eighteen loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least nineteen loci of Table 2A or 2B or Table 3A or 3BTable 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel

may comprise at least twenty loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least twenty-five loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least thirty loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least thirty-five loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least forty loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least forty-five loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least fifty loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least sixty loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least seventy loci of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least eighty loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least ninety loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least one hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci

from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least two hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least three hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least four hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least five hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least six hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least seven hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least eight hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least nine hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least one thousand loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least one thousand five hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least two thousand loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,

14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least two thousand five hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least three thousand loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least three thousand five hundred loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least four thousand loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B. In some embodiments a panel may comprise at least more than four thousand loci of at least one of Table 2A or 2B or Table 3A or 3B and at least 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, or 23 loci from at least one of Table 1A or Table 1B.

[0086] In some embodiments loci to comprise one or more panels are selected exclusively from at least one of Table 1A or Table 1B. In some embodiments loci to comprise one or more panels are selected exclusively from Table 2A or 2B or Table 2A and 2B. In some embodiments loci to comprise one or more panels are selected exclusively from Table 3A or 3B or Tables 3A and 3B. In some embodiments loci to comprise one or more panels are selected from at least one of Table 1A or Table 1B and Table 2A or 2B. In some embodiments loci to comprise one or more panels are selected from at least one of Table 1A or Table 1B and Table 3A or 3B. In some embodiments loci to comprise one or more panels are selected from Table 2A or 2B and Table 3A or 3B. In some embodiments loci to comprise one or more panels are selected from at least one of Table 1A or Table 1B and Table 2A or 2B and Table 3A or 3B.

Oligonucleotides

[0087] In some embodiments an oligonucleotide primer or probe is disclosed. In some embodiments at least one probe or primer is designed having a sequence which

matches that of a locus listed in Table 2A or 2B or Table 3A or 3B, or a locus listed in at least one of Table 1A or Table 1B. In some embodiments at least one probe or primer is designed having a sequence which spans a locus listed in Table 2A or 2B or Table 3A or 3B. In some embodiments the probe or primer is designed to base pair with a nucleotide sequence which is predicted to result from the treatment of at least one locus of Table 2A or 2B or Table 3A or 3B, or at least one of Table 1A or Table 1B with a reagent that alters nucleotide base identity in a manner that is methylation-sensitive. In some embodiments this treatment is bisulfite treatment as part of a process that selectively transforms cytosine but not 5-methyl cytosine to uracil, thus changing the base pairing properties of the molecule treated. In some embodiments, a population of oligonucleotide probes is synthesized such that the population comprises one or more of the possible probes corresponding to each possible methylation pattern for a given locus given the known methylation patterns of the loci selected from at least one of Table 2A or 2B or Table 3A or 3B or at least one of Table 1A or Table 1B. In some embodiments at least one of these probes may distinguish between DNA that was methylated at a given base or bases prior to a chemical treatment that differentially affects methylated DNA as compared to unmethylated DNA from DNA that was not methylated at a given base or bases prior to chemical treatment that differentially affects methylated DNA as compared to unmethylated DNA.

[0088] In some embodiments the oligonucleotide is designed to anneal to a template comprising one of the methylation loci selected from the loci listed in Table 2A or 2B or Table 3A or 3B, or additionally the loci listed in at least one of Table 1A or Table 1B. In some embodiments the oligonucleotide is designed to anneal to a cDNA molecule derived from the mRNA or other RNA product associated with a locus of at least one of Table 2A or 2B or Table 3A or 3B or at least one of Table 1A or Table 1B.

[0089] In some embodiments the oligonucleotide may comprise a panel of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more than 50 oligo probes. In some embodiments said panel may comprise at least one oligo spanning or related to a locus listed in Table 2A or 2B. In some embodiments the panel may comprise at least one oligo spanning or related to a locus listed in Table 3A or 3B. In some embodiments

the panel may further comprise an oligo spanning or related to a locus listed in at least one of Table 1A or Table 1B.

[0090] In some embodiments the primer is designed to base pair with a nucleotide sequence that is predicted to result from the treatment of at least one locus of at least one of Table 2A or 2B or Table 3A or 3B or at least one of Table 1A or Table 1B with a reagent that alters nucleotide base identity in a manner that is methylation-sensitive. In some embodiments this treatment is bisulfite treatment that selectively transforms cytosine but not 5-methyl cytosine to uracil, thus changing the base pairing properties of the molecule. In some embodiments the oligonucleotide primer selectively anneals to a specific DNA sequence corresponding to a specific methylation pattern of a locus of at least one of Table 2A or 2B or Table 3A or 3B or at least one of Table 1A or Table 1B, or to a specific embodiment of one of the complete set of possible methylation patterns of a locus of at least one of Table 2A or 2B or Table 3A or 3B or at least one of Table 1A or Table 1B.

[0091] In some embodiments primer pairs are designed to amplify loci comprising methylation sites. In some embodiments primer pairs are designed to amplify segments of transcripts or cDNA molecules derived from transcripts the synthesis of which is directed from loci associated with methylation sites, such as transcripts from the genes listed in Tables 2, 3, or 1.

[0092] In some embodiments primer pairs are synthesized in combination with one or more oligonucleotide probes. In some embodiments these probes are labeled such that binding to a target sequence results in a detectable configuration change in a probe or detectably affects another probe. In some embodiments these probes are specific to DNA that results from bisulfite-treated methylated DNA or to bisulfite treated unmethylated DNA or to untreated DNA.

[0093] In some embodiments an oligonucleotide is 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, or more than 35 bases long.

[0094] In some embodiments primer pair sets may be assembled wherein at least one primer pair set is capable of amplifying a locus identified in Table 2 under standard PCR conditions known to one of skill in the art. Under the appropriate conditions, primer pairs may be able to direct the amplification of loci spanning a methylation site, or additionally

spanning 20bp, 40bp, 60bp, 80bp, 100bp, 500bp, 1kb, 1.5kb, 2kb, 2.5kb, 5kb, 10kb, or more than 10kb on either side of a methylation site listed in at least one of Table 2A or 2B or Table 3A or 3B or at least one of Table 1A or Table 1B.

Determining Transcript accumulation patterns

[0095] In some embodiments, transcript accumulation levels for transcripts derived from genes associated with at least one of the loci listed in at least one of Table 2A or 2B or Table 3A or 3B may be determined. Additionally, transcript levels for at least one of the loci listed in at least one of Table 1A or Table 1B may be determined. Methylation sites from Tables 1, 2, and 3 were associated with genes if they were located between 10 kb upstream and 10 kb downstream of a gene's transcribed region. Generally, an increase in methylation status at a methylation site within a gene's promoter region indicates a decrease in the accumulation level of transcripts from at least one locus corresponding to or near the methylation site.

[0096] In some embodiments, transcript accumulation levels of each member of a panel discussed above may be assayed. Transcripts to be used in performing an assay may be selected from transcripts that span one or more of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that span one or more of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 100bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 200bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 300bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 400bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 500bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 750bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 1000bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 1500bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 2000bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 2500bp of the loci listed in Tables 2A, 2B, 3A and

3B, or from transcripts derived from genes that are located within 5000bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from transcripts derived from genes that are located within 10000bp of the loci listed in Tables 2A, 2B, 3A and 3B.

[0097] In some embodiments, transcript accumulation levels are assayed in cell populations comprising peripheral blood mononuclear cells. In some embodiments the cell population is selected from a group comprising T-cells, B-cells, monocytes, cells from whole blood, or other tissue of a patient. In some embodiments the cell population from which DNA is to be assayed is a subset of T-cells (such as Th1, Th2, Th17, T-regs, NK cells), a subset of B-cells (such as B1, B2) and/or a subset of monocytes (such as M1 and M2 monocytes or dendritic cells). Cells from any of these groups may be obtained using any of a number of methods known to those of skill in the art. Embodiments disclosed herein are not limited to any particular method of cell or transcript isolation to the exclusion of any other.

[0098] In some embodiments, transcript accumulation patterns determined for one or more of the above cell populations may be compared to transcript accumulation or methylation patterns determined from similar cell types in one or more individuals with a known SLE status, or from one or more different cell populations taken from the same or different individuals compared to the individual to be diagnosed.

[0099] In some embodiments an increase or decrease in the transcript accumulation level of a gene corresponding to at least one locus from a cell or population of cells of an individual to be diagnosed may be indicative of that individual's SLE status. In some embodiments, the transcript accumulation level of a gene corresponding to at least one locus from a cell or population of cells of an individual to be diagnosed may be determined and then normalized to the transcript accumulation level or methylation status of a control transcript or locus to control for error in detection methods that may otherwise impact a diagnosis as to the presence or absence of SLE. Appropriate control loci, transcripts or techniques are known to one of skill in the art.

[0100] Transcript accumulation levels may be assayed using quantitative PCR, ribonucleic acid blot hybridization assays, microarray assays, DNase protection assays, or quantitative nucleic acid sequencing methods, for example. Embodiments disclosed herein are not limited to any particular method of transcript isolation or accumulation level assay to the exclusion of any other. RNA may be purified from an isolated cell or cells from, for

example, a patient to be diagnosed, using methods known in the art. The cell source may be at least one peripheral blood mononuclear cell, or may specifically be at least one T-cell, B-cell, monocyte, or cell from whole blood.

[0101] Accumulation levels of 1, 2, 3, 4, 5 or more, 10 or more, 20 or more, 25 or more, 50 or more than 50 genes, such as 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more than 50 genes, may be determined.

[0102] Transcript accumulation levels may be used much like methylation status determinations. In each case, the set of values determined for a test sample is compared to the values from controls, and deviation from control values, either absolute or relative, may be used to assess the presence or risk of SLE in an individual.

Proteins taught by Tables 1, 2, and 3

[0103] In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in at least one of Table 2A or 2B or Table 3A or 3B is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in Table 2A is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in Table 2B is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in Table 3A is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in Table 3B is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in Table 1A is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in Table 1B is monitored. In some embodiments the activity or accumulation level of at least one protein encoded by a gene at a locus identified or associated with a locus in at least one of Table 1A or Table 1B is monitored. In some embodiments, the activity or accumulation level or both are measured in a protein population

derived from peripheral blood mononuclear cells. Generally, an increase in methylation status at a methylation site within a gene's promoter region indicates a decrease in the accumulation level and/or total activity of proteins encoded by at least one locus corresponding to or near the methylation site. In some embodiments the protein population is selected from a group comprising proteins corresponding to T-cells, B-cells, monocytes, cells from whole blood, or other tissue of a patient. In some embodiments the protein population is selected from a group comprising proteins corresponding to a subset of T-cells (such as Th1, Th2, Th17, T-regs, NK cells), a subset of B-cells (such as B1, B2) and/or a subset of monocytes (such as M1 and M2 monocytes or dendritic cells). In some embodiments, measurements from a protein population corresponding to cells from an SLE individual or an individual whose peripheral blood mononuclear cells, or T-cells, B-cells or monocytes, or subset of T-cells (such as Th1, Th2, Th17, T-regs, NK cells), subset of B-cells (such as B1, B2), subset of monocytes (such as M1 and M2 monocytes or dendritic cells) and/or cells from whole blood or other tissue of a patient present a methylation profile indicative of SLE according to the methods disclosed herein.

[0104] In some embodiments, activity or accumulation levels of protein populations comprising at least one protein encoded by at least one gene associate with a locus listed in at least one of Table 2A or 2B or Table 3A or 3B corresponding to a non-SLE individual are compared to similar levels in from similar protein populations corresponding to an individual having SLE or an individual presenting a methylation profile corresponding to SLE or an individual for which the presence of SLE or early signs of SLE are to be diagnosed. In some embodiments the above protein populations comprise at least one purified protein selected from the list of proteins encoded by genes at the loci listed in Table 2A or 2B or Table 3A or 3B.

[0105] Proteins to be used in an assay may be selected from proteins encoded by genes that span one or more of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 100bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 200bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 300bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 400bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins

encoded by genes that are located within 500bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 750bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 1000bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 1500bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 2000bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 2500bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 5000bp of the loci listed in Tables 2A, 2B, 3A and 3B, or from proteins encoded by genes that are located within 10000bp of the loci listed in Tables 2A, 2B, 3A and 3B. Loci may additionally be listed in Table 4.

[0106] Proteins may be assayed by accumulation level, using protein-specific antibodies, mass-spectrometric methods, nonspecific staining techniques, purification techniques, or a combination of the above. Proteins may also be quantified by measuring their activity levels in a sample extract by, for example, measuring the rate at which they metabolize or otherwise modify a substrate. Method of measuring protein accumulation levels and activity are known to those of skill in the art.

[0107] In some embodiments a panel of proteins is assayed. Accumulation levels of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more than 50 proteins may be determined. In some embodiments accumulation levels of 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more that 50 proteins may be determined. In some embodiments the panel comprises at least one protein from the proteins encoded by genes associated with the loci listed in Table 2A or 2B or Table 3A or 3B. In some embodiments the panel may additionally comprise at least one protein from the proteins encoded by genes at the loci listed in at least one of Table 1A or Table 1B.

[0108] In some embodiments, the activity or accumulation level or both of at least one protein selected from the list of proteins taught in at least one of Table 2A or 2B or Table 3A or 3B is measured. In some embodiments this at least one protein is taken from an individual's peripheral blood mononuclear cells, or T-cells, B-cells or monocytes or cells

from whole blood or a subset of T-cells (such as Th1, Th2, Th17, T-regs, NK cells), a subset of B-cells (such as B1, B2) and/or a subset of monocytes (such as M1 and M2 monocytes or dendritic cells). In some embodiments this at least one protein is taken from serum, such as serum in circulation. In some embodiments the protein is a free circulating protein.

[0109] In some embodiments this measurement is compared to a reference measurement made from a similar cellular protein source (i.e., peripheral blood mononuclear cells, cells from whole blood or T-cells, B-cells or monocytes, or a subset of T-cells (such as Th1, Th2, Th17, T-regs, NK cells), a subset of B-cells (such as B1, B2) and/or a subset of monocytes (such as M1 and M2 monocytes or dendritic cells) respectively) from a healthy individual. In some embodiments the relative levels of these measurements are used to ascertain the presence of SLE in said individual.

[0110] Protein activity or accumulation levels may be used much like methylation status determinations. In each case, the set of values determined for a test sample is compared to the values from controls, and deviation from control values, either absolute or relative, may be used to assess the presence or risk of SLE in an individual.

[0111] Any of the foregoing assays in which methylation status of one or more markers is evaluated can be supplemented by additional data, because the methylation state of a single DML may be informative when integrated with other non-methylation data such as transcription profiles and genomic profiles. Thus, for example, other types of biomarkers may be used in combination with any of the forgoing assays. For example, SNPs or other allelic data relating to, for example, PTPN2; ITGAM-ITGAX; IRF5; IRF8; the FcRγ genes; CTLA-4; STAT-4; BANK; IRAK1; FCRL3; C1q; C2; C4; C5aR; Complement Factor H and Factor H-Related Genes, MECP2; IKZF3; TMEM39a BLK; KIAA1542; PXK; or the MHC alleles HLA DR2, DR3, DR5, or HLA-DQ may be used. Similarly, protein levels, markers including but not limited to blood or serum chemical, biochemical, or protein markers, antibodies or auto-antibodies associated with lupus or autoimmune disease, may be used. A nonlimiting list of examples comprises the antibodies anti-dsDNA; anti-nuclear antibodies; anti-phospholipids; anti-cardiolipin; anti-β2glycoprotein; anti-Ro anti-La; anti-snRNP (U1-RNP); anti-ribonuclear protein; anti-histone; anti-nucleosome; anti-N-methyl-D-aspartate (NR2); anti-C1q; cell surface molecules such as CD27; CD154; CD95; levels of cytokine and chemokine such as α-interferon; IL-6; TNFSF13B/BAFF;CXCL10;CCL2;CCL19; enzymes

such as neutrophil gelatinase-associated lipocalin (NGAL); serum proteins and lipoproteins such as acute phase proteins; or proinflammatory HDL (piHDL); or complement levels such as Total Complement levels; C3, C4 levels; or Cell bound C4d, C3d. Similarly, other markers can be used in combination with the methylation information to further enhance the diagnosis of SLE. See, for example, Ahern, et al. (2012) "*Biomarkers for systemic lupus erythematosus*," Translational Research Volume 159, Number 4, Zhou et al. (2012) "*Gene–Gene Interaction of BLK, TNFSF4, TRAF1, TNFAIP3, and REL in Systemic Lupus Erythematosus*" ARTHRITIS & RHEUMATISM V64(1):222–231, van der Helm-van Mil et al. (2008) "Genome-Wide Single-Nucleotide Polymorphism Studies in Rheumatology: Hype or Hope?" ARTHRITIS & RHEUMATISM 58(9):2591–2597; Zhao et al. (2011) Association of Genetic Variants in Complement Factor H and Factor H-Related Genes with Systemic Lupus Erythematosus Susceptibility PLoS Genet. 2011 May; 7(5): e1002079; and George C. Tsokos (2011) "Mechanisms of Disease - Systemic Lupus Erythematosus" N. Engl. J. Med. 365:22.

Evaluating panel assay results

[0112] Evaluation of results obtained using methods described herein may involve computer-based calculations and tools. For example, a methylation profile for a DNA region or portion thereof, or multiple regions or portions thereof selected from regions corresponding to at least one of the loci listed in at least one of Table 2A or 2B or Table 3A or 3B and optionally additionally including regions corresponding to at least one of the loci in at least one of Table 1A or Table 1B can, for example, be given a methylation value that may be compared by a computer to a threshold value, as described herein, or each methylation site may be evaluated individually.

[0113] Similarly, an activity profile or an accumulation profile or both for a protein, transcript, population or set or proteins comprising at least one protein taught by at least one of Table 2A or 2B or Table 3A or 3B, or population or set or transcripts comprising at least one transcript taught by at least one of Table 2A or 2B or Table 3A or 3B, can, for example, be given an activity or an accumulation value that may be compared by a computer to a threshold value, as described herein, or each value may be evaluated individually.

[0114] Evaluation of the results of a panel assay may be accomplished using a computer-based algorithm. Such an algorithm may evaluate the methylation status of the loci evaluated in comparison to known or measured control levels indicative of the presence or absence of SLE. An algorithm may assess the absolute or relative difference in methylation status between loci, and may weigh all loci equally or may give greater or lesser significance to certain loci based on, for example, prior knowledge of the significance of these loci in diagnosis, or redundancy of certain loci in comparison to other loci assayed.

[0115] Evaluation of the results obtained by assaying a panel of data from a sample taken from an individual may involve evaluating individual or combined values reflective of the extent of methylation at said loci or perturbations in gene product accumulation or activity. This evaluation may involve calculating the difference between values for samples in terms of absolute or normalized values obtained, or may involve calculating the ratio of values obtained in comparison to reference or control values, for example.

[0116] The results of such an evaluation may be collected into a report which may contain values for the assay results, information regarding SLE status of the individual, or both. The report may, for example, contain a metric indicating the number of methylation sites showing a methylation status indicative of SLE, or the aggregate deviation from an SLE-free methylation pattern or from an SLE pattern. The report may contain a statistical probability, or a simple yes/no assessment of the presence of an SLE methylation pattern.

[0117] Reports may be generated providing information mentioned above resulting from an assay of transcript accumulation level panels, protein accumulation level panels, or protein activity panels as well.

[0118] A panel used to generate a report such as those described above may involve a locus selected from Table 2A, and may also involve a locus selected from Table 3A or 3B. A panel used to generate a report such as those described above may involve a locus selected from Table 2B, and may also involve a locus selected from Table 3A or 3B. A panel involving an assay of methylation status may be comprised exclusively of loci from Table 3A, exclusively from Table 3B, or exclusively of loci from Table 2A, or exclusively from Table 2B, or may also include loci from more than one table. A panel involving transcript or protein accumulation levels or protein activity levels may be comprised exclusively of levels

taught in Table 2A and/or Table 2B, or may also comprise levels associated with loci of Tables 1A, 1B, 3A, or 3B. The panel assessed may comprise at least 5, at least 10, at least 20, at least 25, at least 50 or more than 50 loci or loci associated levels, for example 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50 or more that 50 loci or loci associated levels. Generally, an increase in methylation at a methylation site within the promoter region of a gene indicates a decrease in transcript accumulation level, protein accumulation level and, subsequently, total protein activity of a gene product corresponding to or adjacent to a methylation site. For loci outside of promoter regions (e.g., within introns or farther removed from a gene of interest), the effect of methylation may be less predictable. A change in methylation status may, for example, affect RNA processing such as splicing, or may affect chromatin structure, either increasing or decreasing transcription, all of which can be measured using standard biochemical techniques.

[0119] The methylation levels, transcript accumulation levels, protein accumulation levels or protein activity levels may serve as the input for a classification model (e.g., support vector machine), which may generate a list of phenotype-specific probabilities. In some embodiments, the highest probability phenotype will be assigned to the sample. In some embodiments, a classification model will be trained on samples with known phenotypes. Using these training samples, some models may automatically weigh the loci's methylation levels to maximize its ability to correctly predict these training samples. For example, if one locus is more informative than the others, its methylation value will have a stronger influence in the assignment of phenotype probabilities. Loci can be considered independently or combinatorially by the classification model. Other methods of evaluation are contemplated, and embodiments are not limited to a specific method of analysis.

[0120] The tools are advantageously provided in the form of computer programs that are executable, for example, by a general purpose computer system (referred to herein as a "host computer"). The host computer may be of conventional design. The host computer may be made in any number of dimensions and styles (e.g., desktop PC, laptop, Tablet PC, handheld computer, server, workstation, mainframe) and may be configured with many different hardware components. Standard components, such as disk drives, CD and/or DVD drives, monitors, and keyboards, for example, may be included in some configurations.

Where the host computer is connected to a network, the connections may be effected via any suitable transport media (e.g., wired, optical, and/or wireless media) and any suitable communication protocol (e.g., TCP/IP). The host computer may include suitable networking hardware (e.g., modem, Ethernet card, WiFi card). The host computer may implement any of a variety of operating systems, including UNIX, Linux, Microsoft Windows, MacOS, or any other commercially available operating system. Embodiments disclosed herein are not limited to any particular hardware or software.

[0121] Aspects of the present invention may be implemented using any of a variety of computer code languages, including PERL, C, C++, Java, JavaScript, VBScript, AWK, or any other scripting or programming language that can be executed on the host computer or that can be compiled to execute on the host computer. Code may also be written or distributed in low level languages such as assembler languages or machine languages. Embodiments disclosed herein are not limited to any particular computer language.

[0122] The host computer system advantageously provides an interface through which the user directs operation of the tools. Those skilled in the art will appreciate that commands can be adapted to a number of operating systems as appropriate. In other embodiments, a graphical user interface may be provided, which allows the user to control operations using a pointing device. Thus, embodiments of the present invention are not limited to any particular user interface.

[0123] Programs or scripts for incorporating various features of the present invention may be encoded on various computer readable media for storage and/or transmission. Storage or transmission media such as magnetic disk or tape, optical storage media such as compact disk (CD) or digital versatile disk (DVD), flash memory, and carrier signals adapted for transmission via wired, optical, and/or wireless networks conforming to a variety of protocols, including the Internet are contemplated. Embodiments disclosed herein are not limited to any particular storage or transmission medium.

Kits to assay for methylation status

[0124] In some embodiments a kit is disclosed comprising at least one of the reagents disclosed herein. Said reagent may comprise an oligonucleotide probe or primer, a gene chip, an antibody, a panel list or any other reagent disclosed herein provided that the kit

comprises a reagent specific for a locus disclosed in any one of Tables 2A, 2B, 3A or 3B. In some embodiments the kit comprises a reagent related to a locus disclosed in Table 2A. In some embodiments the kit comprises a reagent related to a locus disclosed in Table 2B. In some embodiments the kit comprises a reagent related to a locus disclosed in Table 3A. In some embodiments the kit comprises a reagent related to a locus disclosed in Table 3B. In some embodiments this kit provides at least one reagent that facilitates the determination of the methylation status of at least one locus selected from the list of loci in Table 2A or 2B or Table 3A or 3B, or of a panel of loci which comprises at least one locus selected from at least one of Table 2A or 2B or Table 3A or 3B and which may further comprise at least one locus selected from the list of loci in at least one of Table 1A or Table 1B. In some embodiments the kit comprises a reagent related to a locus of Table 4.

[0125] In some embodiments a kit may comprise a reagent for the determination of the methylation state of at least one locus selected from Table 2A or 2B or Table 3A or 3B. In some embodiments the kit also includes at least one oligonucleotide primer comprising a sequence hybridizing to at least a portion of the at least one locus selected from the group consisting of the loci listed in Table 2A or 2B or Table 3A or 3B. In some embodiments the kit can include one or more of methylation-sensitive restriction endonucleases, amplification reagents such as PCR reagents, probes and/or primers.

Methylation status analysis protocol

[0126] In some embodiments an analysis platform is used to analyze bisulfite converted sequences. Exemplary analysis platforms include: (1) Illumina BeadChips and (2) next generation sequencing (NGS), although other platforms are contemplated and no platform should be perceived as limiting. The first step in either platform is the bisulfite conversion of sample DNA. This forms an artificial oligonucleotide (i.e., not found in nature) where every unmethylated cytosine is transformed into a uracil. For Illumina BeadChips, there are two probe types. For type I probes, the bisulfite converted sample sequences hybridize to BeadChip- oligonucleotides in a methylation state specific matter. If a sample sequence is hybridized to a BeadChip-bound oligonucleotide, an artificially marked nucleotide is added to the BeadChip-bound oligonucleotide. For type II probes, bisulfite converted sequences hybridize to BeadChip-attached oligonucleotides, independent of

methylation status. An artificially marked nucleotide is then selectively added. The identity of the added nucleotide is dependent on the methylation status of the sample sequence. The methylation states of the sample sequences for both type I and type II probes result read by red and green light intensities, generated by a BeadChip scanner. The ratio of these captured intensities estimates the degree of methylation for each CpG.

[0127] Regarding NGS, targeted CpGs in the bisulfite converted sample sequence are selectively PCR amplified for NGS processing. Determining which CpGs we amplify is not obvious (described below). Due to the artificial nature of our sequences, special experimental conditions are required to amplify our targeted regions. For example, we must use a DNA polymerase that properly reads uracil nucleotides, and we must be mindful that bisulfite converted DNA is single stranded and thus more unstable relative to natural DNA. In some NGS configurations, we will need to make further adjustments to account for the lower GC content of bisulfite converted sequences. For example, we add control DNA on the Illumina NGS platform so that there is sufficient representation of all 4 detected nucleotides, as required by the Illumina bioinformatics software. The NGS platform will produce sequence read-outs of our targeted regions. We transform these sequences via in silico demethylation so that they we can accurately map them back to an unmethylated bisulfite converted genome. Once mapped to the genome, we can identify the nucleotides present at methylation sites on the sequence. Due to bisulfite conversion, unmethylated cytosines are artificially transformed into another base (i.e., uracil), and as a result, unmethylated cytosines are read as a different base than methylated cytosines. Counting the number of methylated bases and unmethylated bases per potential methylation site, we can generate the degree of methylation for each targeted CpG by dividing the number of methylated bases by the sum of methylated and unmethylated bases. The output from both BeadChip and NGS platforms is formatted into an n x m matrix, where n represents the number of interrogated CpGs and m represents the number of samples. For example, a BeadChip matrix may consist of 480,000 CpGs across 48 samples, representing a total of 23 million data points. Each data point represents a degree of methylation (e.g., methylation frequency).

Sample assessment protocol

[0128] To assess whether a sample is labeled as SLE or non-SLE, a classification model is trained on a static data set that contains methylation frequency profiles for samples of known phenotypes. A methylation profile consists of an arbitrary number of methylation frequency values. We use a statistical algorithm to determine which CpG sites to analyze out of the approximately 27,000,000 present in the human genome. Similar methods may be used on other genomic sequence. The method is not limited to the human genome in its application. This statistical algorithm transforms methylation frequencies so that their statistical importance can be measured. An example entails transforming these methylation frequencies into phenotype-specific methylation frequency distributions and assessing the similarity of these distributions.

[0129] Prior to analysis by a classification model, methylation frequency profiles may be transformed. An example is subtracting each methylation frequency in a methylation profile by the profile's methylation frequency average and dividing by the standard deviation. When the training data is inputted into a classification model, the classification model determines which methylation signature across all input CpGs best identifies each phenotype.

[0130] The classification model may perform additional transformations. For example, a methylation profile containing 25 CpG methylation frequency values may be transformed via a kernel function into a unitless profile containing 30 values. While training, the classification model analyzes the CpGs in the methylation profile simultaneously and may use CpGs independently or in various combinations to classify phenotypes.

[0131] In some embodiments, the assignment of phenotypes is arbitrary. Samples may be partitioned into two phenotype groups (e.g., disease and no-disease). A multi-disease data set may be partitioned such that each disease is assigned a distinct phenotype or subtypes of a disease is represented as individual phenotypes (e.g., disease subtype I, disease subtype II, and disease subtype III, and no disease).

[0132] Once trained, a test methylation profile is inputted into the classification model and it is compared against the patterns learned from the training data set. The model outputs a classification value per phenotype included in the training set. For some models, these classification values can directly represent classification probabilities. For other

models, the output values are not probabilistic and may be further transformed to represent probabilistic values (via linear regression, for example).

[0133] The output values, which may or may not be probabilistic, are then compared against thresholds determined based on the training data to classify the sample. These classification threshold values are not obvious. For example, the training data set may be used in combination with cross validation algorithms to assess an optimal cutoff value that best identifies a phenotype of interest relative to all other phenotypes. The resultant classification may be further transformed so that it is more interpretable to the data recipient. For Example, classification information can show sensitivity and specificity numbers, or recite a probability that the patient has SLE.

Definitions

[0134] As used herein, a "DNA reservoir" is any source of DNA which may be informative in diagnosis, such as DNA from an individual or individuals, DNA from a cell population taken from an individual or individuals, or extracellular DNA found within an individual, such as free circulating DNA.

[0135] As used herein, a "Differentially Methylated Locus" or "DML" is a methylation site of any of Tables 1A, 1B, 2A, 2B, 3A or 3B.

[0136] As used herein, "Gaussian noise" involves generating a random number based on a Gaussian distribution. This random number is then added to the methylation frequency. For each DML where noise is added, the Gaussian distribution is defined by mean equal to 0 and variance equal to the pooled variance of the samples.

[0137] As used herein, a "locus" is a specific place on a chromosome where a base (nucleic acid residue) or a consecutive set of bases is located. A locus may be a methylation site, or it may be a consecutive set of bases comprising a methylation site and adjacent sequence. It may comprise, for example, a methylation site as well as 100bp, 200bp, 300bp, 400bp, 500bp, 75bp, 1kb, 1.5 kb, 2kb, 2.5kb, 5kb, 10 kb, or more than 10 kb on either side of the methylation site.

[0138] As used herein, "methylation" refers to the addition of a methyl (CH_3) moiety, for example onto a cytosine base at positions C5 or N4, onto an adenine at the N6 position, or onto any other molecular structure capable of forming a covalent bond with CH_3.

In some embodiments, "methylation" refers to cytosine methylation at positions C5 to produce 5-methyl cytosine. Additionally, the terms "unmethylated DNA" or "methylated DNA" can also be used informally to refer to a segment of DNA having at least one base capable of being methylated and wherein said at least one base is unmethylated or methylated, respectively.

[0139] As used herein, a “methylation pattern” refers to the set of methylation states of two or more bases in a genome. The profile can include the methylation state of every base in a cell, tissue or individual, or can comprise any subset thereof comprising more than one base.

[0140] As used herein, a “methylation state” or “methylation status” refers to the presence, absence or extent of methylation at a particular base or set of bases, or nucleotides within a portion of DNA, or other molecule capable of being methylated. Determination of the methylation status of a particular DNA sequence (e.g., a locus, a DNA biomarker or DNA region as described herein) can involve determination of the methylation state of every cytosine C5 position in the sequence or can involve determination of the methylation state of a subset of the cytosine C5 positions (such as the methylation state of cytosines in one or more specific restriction enzyme recognition sequences) within the sequence, or can involve determining regional methylation density within the sequence without providing precise information of where in the sequence the methylation occurs, or can refer to the determination of the methylation status at other positions along a given molecule.

[0141] As used herein, a “methylation site” is a specific base that is known to be methylated under some condition. Such a site may be, differentially methylated, or methylated with a different frequency, in one population of cells or individuals as compared to another (i.e., cells of individuals suffering from SLE or pre-SLE or SLE-like symptoms in comparison to cells of SLE-free individuals). A methylation site need not be methylated under all conditions- for example, a methylation site may be completely unmethylated in some individuals or cell populations

[0142] As used herein, a “p-value” represents the probability of finding a test statistic that is at least as extreme as the one reported.

[0143] As used herein, a “q-value” represent the false discovery rate (FDR) to account for multiple hypothesis testing.

[0144] As used herein, a "panel" is a set of methylation sites, loci, genes or proteins whose methylation states, transcript accumulation levels, or activities or accumulation levels, respectively, may be used to diagnose a condition such as SLE, determine a cell type, determine a cell fate or otherwise evaluate a cell, cell population or individual from which a cell or cell population is derived.

[0145] As used herein, a "primer" is a probe which is used to provide a 3'OH moiety to which a nucleotide triphosphate may be added in a DNA synthesis reaction such as, for example, a polymerase chain reaction.

[0146] As used herein, a "probe" is an oligonucleotide that specifically binds a given DNA sequence. Probes may be modified so that binding to a substrate differentially affects an assayable output.

[0147] As used herein, a "protein accumulation level" is the aggregate amount of that protein that is present in a sample from a cell or cell population. It represents the net effects of translation and degradation on a given protein population, and is often colloquially referred to as 'expression level' of a protein.

[0148] As used herein, a "protein accumulation profile" is the measure of accumulation levels for a panel of proteins.

[0149] As used herein, a "protein activity" is a measure of the rate at which a reaction in which the protein participates occurs in a sample from a cell or cell population comprising a given protein. It represents the net effects of translation, degradation, post-translational modification and substrate availability for a given protein population, and is often colloquially referred to as 'expression level' of a protein.

[0150] As used herein, a "protein activity profile" is the measure of protein activities for a panel of proteins.

[0151] As used herein, an isolated DNA molecule having a sequence "spanning" a methylation site has a sequence that base pairs with the sequence immediately on either side of the methylation site.

[0152] As used herein, a "transcript accumulation level" of a related gene is the aggregate amount of RNA derived from that gene that is present in a sample from a cell or cell population. It represents the net effects of transcription and transcript degradation on a

given transcript population, and is often colloquially referred to as 'expression level' of a transcript.

[0153] As used herein, a "transcript accumulation pattern" is the set of transcript accumulation levels for each member of a gene panel.

EXAMPLES

Example 1 – Cell and DNA Extraction

[0154] Peripheral blood mononuclear cells are extracted using techniques known to those of skill in the art. The protocol of Mallone (Mallone, R. et al., (2010) *Isolation and preservation of peripheral blood mononuclear cells for analysis of islet antigen-reactive T cell responses: position statement of the T-cell Workshop Committee of the Immunology of Diabetes Society*, Clin. Exp. Immunol. 163:33-49) is among the protocols known in the art.

[0155] DNA from peripheral blood mononuclear cells or other cells found in blood are extracted using techniques known to those of skill in the art. The protocols of Mallone (Mallone, R. et al., (2010) *Isolation and preservation of peripheral blood mononuclear cells for analysis of islet antigen-reactive T-cell responses: position statement of the T-cell Workshop Committee of the Immunology of Diabetes Society*, Clin. Exp. Immunol. 163:33-49) and Al-Moundhri (Al-Moundhri, et al., (2010) *The prognostic significance of whole blood global and specific DNA methylation levels in gastric adenocarcinoma*. PloS one 5:e15585) are among the protocols known in the art.

[0156] Circulating cell-free DNA is extracted with methods from Li, M et al. (Li, M. et al., (2009) "*Sensitive digital quantification of DNA methylation in clinical samples,*" Nat Biotechnol (27)9: 858-863). Up to18 ml of blood is collected into standard blood collection tubes containing EDTA. The tubes are immediately chilled to 8 °C and processed within 30 min of collection. The blood cells are pelleted for 15 min at 200g in a Leucosep tube (Greiner) filled with 15 ml of Ficoll-Paque solution. After centrifugation, the supernatant (that is, plasma) is transferred into 1.5 ml tubes, immediately frozen, and stored at −80 °C. The plasma samples are then thawed at 25 °C for 5 min, and any remaining debris is pelleted at 16,000g for 5 min. The supernatant is transferred to a new tube. Total genomic DNA is then purified from aliquots of 2 ml plasma supernatant using the QIAamp MinElute

Virus Vacuum Kit (Qiagen) as recommended by the manufacturer. The DNA is finally eluted in elution buffer (Qiagen), and stored at −20 °C.

Example 2 – Bisulfite Treatment of DNA

[0157] Extracted DNA is treated largely following the protocol of Frommer et al., Proc. Nat. Acad. Sci. USA 89(1992), the disclosure of which is hereby incorporated by reference in its entirety. 2 μg of human DNA and 8μg of carrier plasmid DNA are sheared through a fine needle, alkali denatured, neutralized, and precipitated. DNA is then incubated in a total volume of 1.2mL with freshly prepared 3.1M Sodium bisulfite / 0.5mM hydroquinone, pH 5.0 for 16 hours at 50°C under mineral oil. The solution is dialyzed at 4°C in an excess volume of 5mM Sodium acetate / 0.5mM hydroquinone, pH 5.2, and then at 4°C in an excess volume of 5mM Sodium acetate, pH 5.2, and finally in an excess of deionized water. The solution is dried under a vacuum and the solid residue is resuspended in 100 μL of 100mM Tris/HCl, 01.mM EDTA, pH 7.5 buffer. NaOH is added to a final concentration of 0.3mM and the reaction is allowed to stand at room temperature for 10 minutes. Ammonium acetate is then added to a final concentration of 3M. The DNA is then precipitated, washed and resuspended in 100uL of 10mM Tris/HCl, 0.1 mM EDTA pH 7.5 buffer, and used immediately or stored at -20°C. Commercial kits for bisulfite conversion are also readily available and can be used in place of the foregoing procedure.

Example 3 – Sequencing of Specific Loci of Interest

[0158] 1-5 uL of bisulfite-treated DNA is amplified for 25-30 cycles using specific primers under standard cycling conditions. Amplified fragments are purified. Optionally, fragments are cloned into a vector of interest, which is transformed into a host organism wherein the vector is replicated, and then purified from the host for sequencing.

[0159] Sequencing is performed using dideoxy chain-termination methods and position extension products are visualized using electrophoretic methods appropriate to the label for each dideoxy nucleotide. (Other sequencing techniques, such as pyrosequencing, single strand sequencing, or NGS can also be used.)

Example 4 – Methylation Determination using an Infinium® HumanMethylation450 BeadChip

[0160] 4 uL of Bisulfite-treated DNA are treated using Illumina's Infinium® HumanMethylation450 BeadChip protocol. The whole genome sequence is amplified in a single step, followed by an enzymatic fragmentation step. Samples are then precipitated and resuspended. Resuspended samples are hybridized on a HumanMethylation450 BeadChip at 48°C for 16 hours. The hybridized chips are washed, and a single-nucleotide extension is performed using the hybridized bisulfite treated DNA as a template. The ddCTP and ddGTP ("dideoxy"-) nucleotides to be incorporated are labeled with biotin, while the ddATP and ddTTP are labeled with 2,4-dinitrophenol. Following the extension reaction, the hybridized chip is subjected to repeated rounds of antibody staining to apply fluorophores.

[0161] The hybridized chips are placed in an Illumina HiScan SQ scanner, a two-color laser (532 nm/660 nm) fluorescent scanner with a 0.375 μm spatial resolution, which is capable of exciting the fluorophores generated during the staining step of the protocol. Image intensities are extracted using GenomeStudio (2010.3) Methylation module (1.8.5) software, scored as 0 (unmethylated) to 1 (fully methylated).

Example 5 – Assay Development and Protocol

[0162] Using data generated from a genome-wide approach, significantly differentially methylated loci are identified via a multiple hypothesis corrected statistical test. Data are generated for all phenotypes that the diagnostic model identifies. The loci are ranked based on their differential methylation significance. The samples are randomly segregated into two equally sized sets, a training set and a test set. A classification model is then trained using the top 5- 50 ranked DML and the training data. The classification model is used to assign phenotypes to the samples in the test set. This data segregation and phenotype assignment is repeated (usually 50 – 100 times) and the specificity and sensitivity metrics are calculated for each DML set size. The optimal locus size is chosen based on this data. For each locus in the diagnostic panel, multiple sets of candidate primers are designed to efficiently amplify the 50-200 bp bisulfite converted region covering the locus. The best performing primer pair is used in the final diagnostic. Taqman probes are used during this

amplification process to determine methylation values. Alternately, the amplified regions are sequenced to determine methylation values.

Example 6 – Data Analysis

[0163] Differentially methylated loci (DMLs) identified by methylation-specific arbitrarily primed PCR and methylated CpG island amplification were scored and prioritized using the following scoring variables: (a) appearance using multiple discovery methods; (b) appearance in multiple pools of like samples; (c) located within a CpG island; (d) located within the promoter region of a gene; (e) located near or within predicted or known genes; (f) known to be associated with disease; (g) class of gene (transcription factor, growth factor, apoptosis gene, oncogene, cytokine gene); and (h) repetitive element. Under this scoring scheme, a sequence received a point for each of the above criteria and received a score of -8 for having repetitive sequence content >50%. Therefore, the highest score possible was 7; the lowest was -8. Scores were automatically calculated for each sequence using genomic annotations from current databases, such as Ensembl or the UCSC genome browser.

Example 7 – Sample Panel

[0164] DMLs were selected which, in groups of 3 or less, provided an SLE diagnosis with an error rate of about 14%. By combining these DMLs into a single panel, an SLE diagnosis error rate of 3% was achieved. The DMLs selected for this panel are indicated in Figure 1.

Example 8 – Sample Panel

[0165] Two DMLs were selected which yield an SLE diagnosis error rate of 19%. By adding DMLs to the panel, a steady decrease in error rate was achieved - down to 0% in the absence of simulated data noise and 2-8% in the presence of such noise of varying magnitudes. The DML constituents of this panel are given in Figure 2.

Example 9 – Cell Sorting

[0166] Peripheral blood mononuclear cells are extracted using techniques known to those of skill in the art. The protocol of Mallone (Mallone, R. et al., (2010) *Isolation and*

preservation of peripheral blood mononuclear cells for analysis of islet antigen-reactive T-cell responses: position statement of the T-cell Workshop Committee of the Immunology of Diabetes Society, Clin. Exp. Immunol. 163:33-49) is among the protocols known in the art.

[0167] For example, total PBMCs obtained from SLE and non-SLE patient blood samples are prepared by Ficoll gradient (Langevin et al., 2012. *"Peripheral blood DNA methylation profiles are indicative of head and neck squamous cell carcinoma: An epigenome-wide association study,"* Epigenetics. 7(3):291-9). The isolated cell subsets are further enriched for T-Cells, B-cells, and Monocytes by magnetic beads pre-bound with biotinylated monoclonal antibodies towards human cell surface markers (including nonlimiting examples such as anti-huCD4, huCD19 and huCD68) as described (Vallée et al., 1998. *"Human T lymphocyte proliferative response to resting porcine endothelial cells results from an HLA-restricted, IL-10-sensitive, indirect presentation pathway but also depends on endothelial-specific costimulatory factors,"* J Immunol. 161(4):1652-8.; Lea et al., 1988. *"Monosized, magnetic polymer particles: their use in separation of cells and subcellular components, and in the study of lymphocyte function in vitro,"* J Mol Recognit. 1(1):9-18; Funderud et al., 1990. *"Functional properties of CD19+ B lymphocytes positively selected from buffy coats by immunomagnetic separation,"* Eur J Immunol. 20(1):201-6).

Example 10 – Confirmation of Efficacy of Disclosed DML in SLE Diagnosis

[0168] DMLs were selected at random from Tables 2A and 2B, below, to constitute panels of from 23 to 50 loci. Control panels were selected comprising methylation sites known in related literature to be methylated independent of SLE status. That is, control panels consisted of methylation sites that were randomly selected without consideration of SLE status.

[0169] A first set of samples from individuals each having a known SLE status were assayed for their relative methylation status at the loci in randomly generated panels from Table 2A and 2B disclosed herein and from the random methylation sites unrelated to SLE. Using these results as a 'training set', a second set of samples from individuals each having a known SLE status were assayed for their relative methylation status at each locus in the randomly generated Table 2A and 2B panels and the control panels.

[0170] The random Table 2A and 2B panels and the control panels were evaluated for their ability to accurately identify SLE status in the sample data set. A number of panel sizes and methylation level calling parameters were used in various repeats of the analyses. Panels were assessed as to their Sensitivity, a measure of the panel's utility to correctly identify SLE positive samples relative to the total number of analyzed SLE positive patient samples. Panels were also evaluated as to their Specificity, a measure of the panel's ability to correctly call SLE negative samples relative to the total number of analyzed SLE negative samples. Importantly, both high sensitivity and high specificity values are required for a panel to have good performance. An effective panel must be able to classify SLE negative patients as SLE negative and SLE positive patients as SLE positive.

[0171] The randomly selected Table 2A and 2B DML panels demonstrated a Sensitivity of about 68% (median sensitivity 68%, average sensitivity excluding outliers of 66%) and a Specificity of about 85% (median specificity 85%, average specificity excluding outliers of 85%). The comparable values for the control panels were a Sensitivity of about 0% (median sensitivity of 0%, average excluding outliers of 3%) and a Specificity of about 99% (median specificity of 99%, average specificity excluding outliers of 98%). The determination a panel's overall performance (i.e., accuracy) depends both on high sensitivity and high specificity values. For example, even though the control panel has a specificity of about 99% (i.e., SLE negative samples are consistently called SLE negative), the low sensitivity demonstrates that the panel performs poorly because few or no SLE positive samples are called SLE positive.

[0172] These results clearly indicate that any randomly selected panel of loci disclosed herein substantially outperforms a control background panel in identifying SLE status in a given patient sample.

Example 11 – Exemplary Panel Performance

[0173] DMLs were selected from Tables 1A, 1B, 2A, 2B, 3A, and 3B for inclusion in diagnostic panels based upon their predictive diagnostic value in a cell type rather than at random, as in Example A above. Panels of sizes comparable to those of the previous example were generated and subject to a similar set of analyses.

[0174] Selected DML panels were observed to perform substantially better than both the negative control panels and the randomly selected panels. The selected DML panels demonstrated a Sensitivity of over 80% (median sensitivity of 82.4%, average sensitivity of 81%) and a Specificity over 96% (median specificity of 97%, average specificity of 96%). The DML which constituted the selected DML panels are disclosed in Table 4.

[0175] These results clearly indicate that selected DML panels of loci disclosed herein substantially outperform both control background panels and randomly selected panels for DML disclosed herein in identifying SLE status in a given patient sample. Accordingly, the results attest to the utility of the DML disclosed herein as members of panels in SLE diagnosis.

[0176] While the present invention has been described in some detail for purposes of clarity and understanding, one skilled in the art will appreciate that various changes in form and detail can be made without departing from the true scope of the invention.

[0177] The term "comprising" as used herein is synonymous with "including," "containing," or "characterized by," and is inclusive or open-ended and does not exclude additional, unrecited elements or method steps.

[0178] All numbers expressing quantities of ingredients, reaction conditions, and so forth used in the specification are to be understood as being modified in all instances by the term "about." Accordingly, unless indicated to the contrary, the numerical parameters set forth herein are approximations that may vary depending upon the desired properties sought to be obtained. At the very least, and not as an attempt to limit the application of the doctrine of equivalents to the scope of any claims in any application claiming priority to the present application, each numerical parameter should be construed in light of the number of significant digits and ordinary rounding approaches.

[0179] The above description discloses several methods and materials of the present invention. This invention is susceptible to modifications in the methods and materials, as well as alterations in the fabrication methods and equipment. Such modifications will become apparent to those skilled in the art from a consideration of this disclosure or practice of the invention disclosed herein. Consequently, it is not intended that

this invention be limited to the specific embodiments disclosed herein, but that it cover all modifications and alternatives coming within the true scope and spirit of the invention.

[0180] All references cited herein, including but not limited to published and unpublished applications, patents, and literature references, are incorporated herein by reference in their entirety and are hereby made a part of this specification. To the extent publications and patents or patent applications incorporated by reference contradict the disclosure contained in the specification, the specification is intended to supersede and/or take precedence over any such contradictory material.

Table 1A

Data are listed as "DML, optional associated gene||position relative to optional gene:distance of DML from transcription start site in bases (multiple positions delimited by |), cell population(s) of origin;"

DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

11:68458524, GAL||Exon 6:6542, PBMC; 15:67359525, SMAD3||Intron 1:1331, PBMC; 16:31342952, ITGAM||Intron 29:71665, PBMC; 17:76967695, LGALS3BP||Exon 6:8366, PBMC; 17:76976091, LGALS3BP||Proximal Promoter:-30, PBMC; 18:45458243, SMAD2||Proximal Promoter:-1317|Proximal Promoter:-731|Proximal Promoter:-728, PBMC; 19:55314972, KIR2DL4||Proximal Promoter:-94, PBMC; 1:114402309, PTPN22||Intron 1:12066, PBMC; 1:182858007, DHX9||3' Proximal Enhancer:49569, PBMC; 1:25238271, RUNX3||Intron 3:18499|Intron 4:53230, PBMC; 1:25246854, RUNX3||Intron 2:9916|Intron 3:44647, PBMC; 1:25253237, RUNX3||Intron 2:3533|Intron 3:38264, PBMC; 1:25292225, RUNX3||Proximal Promoter:-724, PBMC; 1:32739049, LCK||Proximal Promoter:-662|Intron 1:22210, PBMC; 20:44637511, MMP9||Proximal Promoter:-35, PBMC; 4:55100025, PDGFRA||Intron 1:4762, PBMC;

Table 1B

Data are listed as "DML, optional associated gene||position relative to optional gene:distance of DML from transcription start site in bases (multiple positions delimited by |), cell population(s) of origin;"

DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

10:91091912, IFIT3||Proximal Promoter:-326|Intron 1:4311, Bcell,Tcell; 10:91093005, IFIT3||Intron 1:767|Intron 1:5404, Bcell,Monocyte,Tcell,Whole Blood; 10:91093681, IFIT3||Intron 1:1443|Intron 1:6080, Bcell,Monocyte,Tcell,Whole Blood; 10:91144795, IFIT1||5' Proximal Enhancer:-7526, PBMC; 10:91151885, IFIT1||Proximal Promoter:-436, Bcell,PBMC,Tcell; 10:91153038, IFIT1||Intron 1:717, PBMC; 10:91153102, IFIT1||Intron 1:781, PBMC; 10:91153143, IFIT1||Intron 1:822, Bcell,Monocyte,Tcell,Whole Blood; 10:91153211, IFIT1||Intron 1:890, PBMC; 10:91153269, IFIT1||Intron 1:948, PBMC; 10:91172454, IFIT1||3' Proximal Enhancer:20133, PBMC; 11:34457835, CAT||Distal Promoter:-2636, Monocyte; 11:35239907, CD44||Intron 14:Intron 15:Intron 2:Intron 5:Intron 6:Intron 7:Intron 9:79491, Whole Blood; 11:5710654, TRIM22||Proximal Promoter:-162, PBMC,Tcell,Whole Blood; 11:5716255, TRIM22||Intron 1:5439, Bcell,Monocyte,PBMC,Tcell; 15:67354460, SMAD3||Distal Promoter:-3734, PBMC,Tcell; 15:67411858, SMAD3||5' Proximal Enhancer:-6195|Intron 1:53664, Tcell; 17:76965407, LGALS3BP||3' Proximal Enhancer:10654, Monocyte; 17:76967695, LGALS3BP||Exon 6:8366, Bcell,Monocyte; 17:76967825, LGALS3BP||Exon 6:8236, Monocyte,PBMC; 17:76975944, LGALS3BP||Proximal Promoter:117, Bcell,Monocyte,PBMC,Tcell; 17:76976010, LGALS3BP||Proximal Promoter:51, Monocyte,PBMC,Tcell,Whole Blood; 17:76976057, LGALS3BP||Proximal Promoter:4, Monocyte,PBMC; 17:76976091, LGALS3BP||Proximal Promoter:-30, Bcell,Monocyte,Tcell,Whole Blood; 17:76976245, LGALS3BP||Proximal Promoter:-184, Bcell,Monocyte,PBMC,Tcell; 17:76976267, LGALS3BP||Proximal Promoter:-206, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 17:76976352, LGALS3BP||Proximal Promoter:-291, Bcell,PBMC; 17:76976357, LGALS3BP||Proximal Promoter:-296, Bcell,Monocyte,PBMC; 1:160546243, CD84||Intron 1:3063, Monocyte; 1:209982407, IRF6||Distal Promoter:-2887, Whole Blood; 1:25246854, RUNX3||Intron 2:9916|Intron 3:44647, Tcell; 1:25257566, RUNX3||Proximal Promoter:-796|Intron 1:33935,

Tcell; 1:25259106, RUNX3||Proximal Promoter:-2336|Intron 1:32395, Tcell; 1:25290947, RUNX3||Intron 1:554, Tcell; 1:25291041, RUNX3||Proximal Promoter:460, PBMC,Tcell; 1:25291989, RUNX3||Proximal Promoter:-488, Tcell; 1:25292215, RUNX3||Proximal Promoter:-714, Tcell; 1:27990967, IFI6||3' Proximal Enhancer:7757, Monocyte; 1:32708234, LCK||5' Proximal Enhancer:-8605, PBMC; 1:32708250, LCK||5' Proximal Enhancer:-8589, PBMC,Tcell; 1:32712237, LCK||Distal Promoter:-4602, Bcell; 1:32714164, LCK||Distal Promoter:-2675, Tcell; 1:32716557, LCK||Proximal Promoter:-282, Tcell; 1:79085162, IFI44L||Proximal Promoter:-925, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 1:79085250, IFI44L||Proximal Promoter:-837, Bcell,Monocyte,Tcell,Whole Blood; 1:79085586, IFI44L||Proximal Promoter:-501, Bcell,Monocyte,Tcell,Whole Blood; 1:79085647, IFI44L||Proximal Promoter:-440, PBMC; 1:79085713, IFI44L||Proximal Promoter:-374, Bcell,Monocyte,Tcell,Whole Blood; 1:79085765, IFI44L||Proximal Promoter:-322, Bcell,Tcell,Whole Blood; 1:79085804, IFI44L||Proximal Promoter:-283, PBMC; 1:79088769, IFI44L||Intron 1:2682, Bcell,Monocyte,Tcell,Whole Blood; 1:79111320, IFI44L||Exon 9:25233, Monocyte,PBMC; 1:79114976, IFI44L||3' Proximal Enhancer:28889, PBMC,Whole Blood; 1:79118191, IFI44L||3' Proximal Enhancer:32104, Bcell,Monocyte,Tcell,Whole Blood; 20:44636831, MMP9||Proximal Promoter:-715, PBMC; 20:44636981, MMP9||Proximal Promoter:-565, PBMC,Tcell; 21:42791867, MX1||5' Proximal Enhancer:-6235|5' Proximal Enhancer:-6110|Proximal Promoter:-652, Monocyte,Tcell; 21:42792609, MX1||5' Proximal Enhancer:-5493|5' Proximal Enhancer:-5368|Proximal Promoter:90, Tcell; 21:42792703, MX1||5' Proximal Enhancer:-5399|5' Proximal Enhancer:-5274|Proximal Promoter:184, PBMC,Tcell; 21:42797588, MX1||Proximal Promoter:-514|Proximal Promoter:-389|Intron 3:5069, Bcell,Monocyte,Tcell,Whole Blood; 21:42797654, MX1||Proximal Promoter:-448|Proximal Promoter:-323|Intron 3:5135, PBMC; 21:42797708, MX1||Proximal Promoter:-394|Proximal Promoter:-269|Intron 3:5189, PBMC; 21:42797715, MX1||Proximal Promoter:-387|Proximal Promoter:-262|Intron 3:5196, PBMC; 21:42797844, MX1||Proximal Promoter:-258|Proximal Promoter:-133|Intron 3:5325, PBMC; 21:42797847, MX1||Proximal Promoter:-255|Proximal Promoter:-130|Intron 3:5328, Bcell,Monocyte,Tcell,Whole Blood; 21:42797939, MX1||Proximal Promoter:-163|Proximal Promoter:-38|Intron 3:5420, Tcell; 21:42797953, MX1||Proximal Promoter:-149|Proximal Promoter:-24|Intron 3:5434, Monocyte,Tcell; 21:42798747, MX1||Intron 1:645|Intron 1:770|Intron 3:6228, Bcell,Monocyte,PBMC,Tcell; 21:42798979, MX1||Intron 1:877|Intron 1:1002|Intron 3:6460, PBMC; 21:42799029, MX1||Intron 1:927|Intron 1:1052|Intron 3:6510, PBMC; 21:42799066, MX1||Intron 1:964|Intron 1:1089|Intron 3:6547, PBMC; 21:42799068, MX1||Intron 1:966|Intron 1:1091|Intron 3:6549, PBMC; 21:42799086, MX1||Intron 1:984|Intron 1:1109|Intron 3:6567, PBMC; 21:42799141, MX1||Intron 1:1039|Exon 2:1164|Exon 4:6622, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 21:42799150, MX1||Intron 1:1048|Exon 2:1173|Exon 4:6631, PBMC; 21:42799171, MX1||Intron 1:1069|Exon 2:1194|Exon 4:6652, PBMC; 21:42799180, MX1||Intron 1:1078|Exon 2:1203|Exon 4:6661, PBMC; 21:42799189, MX1||Intron 1:1087|Exon 2:1212|Exon 4:6670, PBMC; 21:42799191, MX1||Intron 1:1089|Exon 2:1214|Exon 4:6672, PBMC; 21:42799200, MX1||Intron 1:1098|Exon 2:1223|Exon 4:6681, PBMC; 22:18632404, USP18||Proximal Promoter:-353, Tcell; 22:18632429, USP18||Proximal Promoter:-328, Tcell; 22:18632433, USP18||Proximal Promoter:-324, Tcell; 22:18633123, USP18||Proximal Promoter:366, Tcell; 22:18635447, USP18||Intron 1:2690, PBMC; 22:18635460, USP18||Intron 1:2703, Bcell,Monocyte,Tcell,Whole Blood; 22:18635521, USP18||Intron 1:2764, PBMC; 22:18635586, USP18||Intron 1:2829, PBMC; 22:18635658, USP18||Intron 1:2901, PBMC; 2:136873409, CXCR4||Proximal Promoter:404|Exon 2:2316, Monocyte; 2:191844998, STAT1||Intron 19:33978, Monocyte; 2:191850909, STAT1||Intron 14:28067, Tcell; 2:191875807, STAT1||Intron 2:3169, Bcell,Monocyte,Tcell; 2:191876673, STAT1||Intron 2:2303, Bcell,Monocyte,PBMC,Tcell; 2:191883483, STAT1||Distal Promoter:-4507, Tcell; 2:191894418, STAT4||Exon 24:121568|Exon 24:121904, Bcell,Monocyte; 7:128579876, IRF5||Proximal Promoter:-895|Intron 1:1606|Intron 1:1883, Tcell; 7:128579933, IRF5||Proximal Promoter:-838|Intron 1:1663|Intron 1:1940, Tcell; 7:128579964, IRF5||Proximal Promoter:-807|Intron 1:1694|Intron 1:1971, Tcell; 7:128580792, IRF5||Proximal Promoter:21|Intron 1:2522|Intron 1:2799, Tcell; 8:141594473, EIF2C2||Intron 2:51173, Tcell; 9:93588842, SYK||Proximal Promoter:-862|Intron 1:24636|Intron 1:24831, Monocyte; X:153639789, DNASE1L1||Proximal Promoter:-2214|Intron 1:638, PBMC;

Table 2A

Data are listed as "DML, optional associated gene||position relative to optional gene:distance of DML from transcription start site in bases (multiple positions delimited by |), cell population(s) of origin;"

DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

10:101089149, CNNM1||Proximal Promoter:294, PBMC; 10:102102351, SCD||Distal Promoter:-4420, PBMC; 10:102107757, SCD||Intron 1:986, PBMC; 10:102322556, 10:102322556, HIF1AN||3' Proximal Enhancer:26916, PBMC; 10:102416292, PBMC; 10:102431136, PBMC; 10:102626509, PBMC; 10:102671221, FAM178A||Proximal Promoter:-1104, PBMC; 10:102807218, SFXN3||3' Proximal Enhancer:16223, PBMC; 10:102987257, FLJ41350||Proximal Promoter:-2093, LBX1||Exon 2:1460, PBMC; 10:103113360, BTRC||Proximal Promoter:-464, PBMC; 10:103536348, FGF8||Proximal Promoter:-589|Intron 1:3778, MGEA5||3' Proximal Enhancer:41874, PBMC; 10:103594334, KCNIP2||Intron 1:5277|Intron 1:9343, LOC100289509||3' Proximal Enhancer:15510, PBMC; 10:103960817, PBMC; 10:103986268, ELOVL3||Proximal Promoter:126, PITX3||3' Proximal Enhancer:14963, PBMC; 10:104193735, CUEDC2||Proximal Promoter:-1312, MIR146B||Distal Promoter:-2533, PBMC; 10:104406990, TRIM8||Intron 1:2739, PBMC; 10:104412306, TRIM8||Intron 1:8055, PBMC; 10:105357975, NEURL||3' Proximal Enhancer:104241, SH3PXD2A||Exon 14:257189, PBMC; 10:105517764, LOC100505839||3' Proximal Enhancer:11228, SH3PXD2A||Intron 3:97400, PBMC; 10:106020930, GSTO1||Intron 3:6463|Intron 3:6979, GSTO2||5' Proximal Enhancer:-7700, PBMC; 10:111989324, 10:111989324, MXI1||Intron 2:19336|Intron 2:21962|Intron 2:3563, PBMC; 10:112256517, DUSP5||Proximal Promoter:-1107, PBMC; 10:11443364, PBMC; 10:115059021, PBMC; 10:116285554, ABLIM1||Intron 1:1131|Intron 6:132504|Intron 6:158860, PBMC; 10:116287249, ABLIM1||Proximal Promoter:-564|Intron 6:130809|Intron 6:157165, PBMC; 10:116298339, ABLIM1||Intron 6:119719|Intron 6:146075, PBMC; 10:116634877, FAM160B1||Intron 16:53375, PBMC; 10:11789383, ECHDC3||Exon 2:5028, PBMC; 10:118084504, C10orf96||Exon 2:565, PBMC; 10:118387095, PNLIPRP2||Intron 5:6631, PBMC; 10:118387207, 10:118387207, PNLIPRP2||Intron 5:6743, PBMC; 10:118502947, HSPA12A||Proximal Promoter:-862, PBMC; 10:118896755, VAX1||Intron 1:1057, PBMC; 10:119294332, EMX2||5' Proximal Enhancer:-7623, EMX2OS||Intron 2:10247, PBMC; 10:119786, PBMC; 10:120001302, PBMC; 10:121129753, GRK5||Intron 2:162557, MIR4681||5' Proximal Enhancer:-7730, PBMC; 10:121301041, RGS10||Distal Promoter:-4996|Intron 1:1181, PBMC; 10:121415189, BAG3||Intron 1:4308, PBMC; 10:122217470, PPAPDC1A||Intron 1:1005, PBMC; 10:123355268, FGFR2||Proximal Promoter:-1787|Proximal Promoter:-1496|Intron 1:891|Intron 1:2704, PBMC; 10:123731471, NSMCE4A||Intron 2:3272, PBMC; 10:123873748, TACC2||Intron 5:125060, PBMC; 10:124247117, 10:124247117, HTRA1||Intron 1:26077, PBMC; 10:124319791, DMBT1||Proximal Promoter:-389, PBMC; 10:125251730, PBMC; 10:125425625, 10:125425625, GPR26||Proximal Promoter:-245, PBMC; 10:125425994, GPR26||Proximal Promoter:124, PBMC; 10:125751386, PBMC; 10:126493429, FAM175B||Intron 1:3076, PBMC; 10:126850823, PBMC; 10:126851162, PBMC; 10:127059351, PBMC; 10:128594417, DOCK1||Proximal Promoter:395, PBMC; 10:128994297, DOCK1||Intron 27:400275, FAM196A||Proximal Promoter:125, PBMC; 10:128994603, DOCK1||Intron 27:400581, FAM196A||Proximal Promoter:-181, PBMC; 10:128994608, DOCK1||Intron 27:400586, FAM196A||Proximal Promoter:-186, PBMC; 10:128994644, DOCK1||Intron 27:400622, FAM196A||Proximal Promoter:-222, PBMC; 10:129797760, PTPRE||Intron 2:92436, PBMC; 10:129797777, PTPRE||Intron 2:92453, PBMC; 10:129797840, PTPRE||Intron 2:92516, PBMC; 10:129861770, PTPRE||Intron 7:15958|Intron 10:156446, PBMC; 10:131350999, MGMT||Intron 2:85546, PBMC; 10:131412764, MGMT||Intron 2:147311, PBMC; 10:131529435, MGMT||Intron 3:263982, PBMC; 10:131669406, PBMC; 10:131669461, PBMC; 10:131669630, PBMC; 10:131684716, PBMC; 10:131762052, PBMC; 10:132291878, PBMC; 10:133048362, TCERG1L||Intron 4:61622, PBMC; 10:133909949, JAKMIP3||5' Proximal Enhancer:-8363, PBMC; 10:133961825, JAKMIP3||Intron 13:43513, PBMC; 10:133999320, DPYSL4||Proximal Promoter:-1093, JAKMIP3||3' Proximal Enhancer:81008, PBMC; 10:134000009, DPYSL4||Proximal Promoter:-404, JAKMIP3||3' Proximal Enhancer:81697, PBMC; 10:134000287, DPYSL4||Proximal Promoter:-126, JAKMIP3||3' Proximal Enhancer:81975, PBMC; 10:134001728, DPYSL4||Intron 1:1315, JAKMIP3||3' Proximal Enhancer:83416, PBMC; 10:134150581, LRRC27||Proximal Promoter:-29|Intron 2:4841|Intron 2:4968, PBMC; 10:134353618, INPP5A||Intron 1:2266, PBMC; 10:134358030, INPP5A||Intron 1:6678, PBMC; 10:134358273, INPP5A||Intron 1:6921, PBMC; 10:134358535, INPP5A||Intron 1:7183, PBMC; 10:134385407, INPP5A||Intron 1:34055, PBMC; 10:134399880, INPP5A||Intron 1:48528, PBMC;

10:134411480, INPP5A||Intron 1:60128, PBMC; 10:134598352, INPP5A||3' Proximal Enhancer:247000, NKX6-2||Exon 3:1185, PBMC; 10:134599149, INPP5A||3' Proximal Enhancer:247797, NKX6-2||Proximal Promoter:388, PBMC; 10:134600089, INPP5A||3' Proximal Enhancer:248737, NKX6-2||Proximal Promoter:-552, PBMC; 10:134600295, INPP5A||3' Proximal Enhancer:248943, NKX6-2||Proximal Promoter:-758, PBMC; 10:134600301, INPP5A||3' Proximal Enhancer:248949, NKX6-2||Proximal Promoter:-764, PBMC; 10:134600357, INPP5A||3' Proximal Enhancer:249005, NKX6-2||Proximal Promoter:-820, PBMC; 10:134600463, INPP5A||3' Proximal Enhancer:249111, NKX6-2||Proximal Promoter:-926, PBMC; 10:134600477, INPP5A||3' Proximal Enhancer:249125, NKX6-2||Proximal Promoter:-940, PBMC; 10:134600489, INPP5A||3' Proximal Enhancer:249137, NKX6-2||Proximal Promoter:-952, PBMC; 10:134600491, INPP5A||3' Proximal Enhancer:249139, NKX6-2||Proximal Promoter:-954, PBMC; 10:134600675, INPP5A||3' Proximal Enhancer:249323, NKX6-2||Proximal Promoter:-1138, PBMC; 10:134600701, INPP5A||3' Proximal Enhancer:249349, NKX6-2||Proximal Promoter:-1164, PBMC; 10:134600915, INPP5A||3' Proximal Enhancer:249563, NKX6-2||Proximal Promoter:-1378, PBMC; 10:134600998, INPP5A||3' Proximal Enhancer:249646, NKX6-2||Proximal Promoter:-1461, PBMC; 10:134693097, TTC40||Exon 29:62992, PBMC; 10:134752049, C10orf93|TTC40||Intron 5:4040, PBMC; 10:134843775, PBMC; 10:134876495, PBMC; 10:134902278, GPR123||Exon 2:870, PBMC; 10:134910540, GPR123||Exon 3:9132, PBMC; 10:134936859, GPR123||Intron 5:35451, PBMC; 10:135033501, KNDC1||Exon 29:59531, PBMC; 10:135044114, KNDC1||3' Proximal Enhancer:70144, UTF1||Proximal Promoter:337, PBMC; 10:135049991, UTF1||3' Proximal Enhancer:6214, VENTX||Proximal Promoter:-1416, PBMC; 10:135049999, UTF1||3' Proximal Enhancer:6222, VENTX||Proximal Promoter:-1408, PBMC; 10:135050004, UTF1||3' Proximal Enhancer:6227, VENTX||Proximal Promoter:-1403, PBMC; 10:135050175, UTF1||3' Proximal Enhancer:6398, VENTX||Proximal Promoter:-1232, PBMC; 10:135050957, UTF1||3' Proximal Enhancer:7180, VENTX||Proximal Promoter:-450, PBMC; 10:135051292, MIR202||3' Proximal Enhancer:9832, UTF1||3' Proximal Enhancer:7515, PBMC; 10:135051351, MIR202||3' Proximal Enhancer:9773, UTF1||3' Proximal Enhancer:7574, PBMC; 10:135051532, MIR202||3' Proximal Enhancer:9592, UTF1||3' Proximal Enhancer:7755, PBMC; 10:135051581, MIR202||3' Proximal Enhancer:9543, UTF1||3' Proximal Enhancer:7804, PBMC; 10:135060549, MIR202||3' Proximal Enhancer:575, VENTX||3' Proximal Enhancer:9142, PBMC; 10:13515334, BEND7||Intron 6:29642, PBMC; 10:13714674, FRMD4A||Intron 16:658192, PBMC; 10:13972210, FRMD4A||Intron 2:400656, PBMC; 10:14002394, FRMD4A||Intron 2:370472, PBMC; 10:1401818, ADARB2||Intron 3:377852, PBMC; 10:1411072, ADARB2||Intron 2:368598, PBMC; 10:14620934, FAM107B||Intron 2:195962, PBMC; 10:15018100, 10:15018100, MEIG1||3' Proximal Enhancer:16663, PBMC; 10:15386981, FAM171A1||Intron 1:26077, PBMC; 10:18429703, CACNB2||Proximal Promoter:-38|Proximal Promoter:98, PBMC; 10:21799314, C10orf140||3' Proximal Enhancer:15297, PBMC; 10:21803711, C10orf140||Exon 4:10900, PBMC; 10:22634226, SPAG6||Proximal Promoter:-147, PBMC; 10:23385780, MSRB2||Intron 1:1354, PBMC; 10:23385979, MSRB2||Intron 1:1553, PBMC; 10:23481594, PTF1A||Proximal Promoter:135, PBMC; 10:23729522, OTUD1||Exon 1:1325, PBMC; 10:24535410, KIAA1217||Intron 2:37691|Intron 3:551736, PRINS||Proximal Promoter:-643, PBMC; 10:25183825, PRTFDC1||Intron 3:57708, PBMC; 10:25238461, PRTFDC1||Intron 1:3072, PBMC; 10:2543763, PBMC; 10:25464825, GPR158||Exon 1:536, LOC100128811||Proximal Promoter:380, PBMC; 10:27541877, LOC387646||Proximal Promoter:-642, PBMC; 10:27608703, PBMC; 10:28588024, PBMC; 10:30025782, PBMC; 10:30724274, MAP3K8||Intron 1:1325, PBMC; 10:30724374, MAP3K8||Intron 1:1425, PBMC; 10:32345864, KIF5B||Proximal Promoter:-493, PBMC; 10:33016632, C10orf68||Intron 8:159982, PBMC; 10:33624433, NRP1||Proximal Promoter:-600, PBMC; 10:34151366, PBMC; 10:3503185, PBMC; 10:35256135, PBMC; 10:35930534, FZD8||Proximal Promoter:-172, MIR4683||Proximal Promoter:-354, PBMC; 10:38692187, SEPT7L||Proximal Promoter:-407, PBMC; 10:42863068, LOC441666||Proximal Promoter:425, PBMC; 10:43394054, PBMC; 10:43522190, PBMC; 10:43577025, RET||Intron 1:4509, PBMC; 10:43605906, RET||Intron 6:33390, PBMC; 10:43632967, CSGALNACT2||Proximal Promoter:-966, RET||3' Proximal Enhancer:60451, PBMC; 10:43633030, CSGALNACT2||Proximal Promoter:-903, RET||3' Proximal Enhancer:60514, PBMC; 10:43721445, RASGEF1A||Intron 1:40922, PBMC; 10:43846281, PBMC; 10:43846539, PBMC; 10:44494208, PBMC; 10:44880236, CXCL12||Proximal Promoter:309, PBMC; 10:44881750, 10:44881750, CXCL12||Proximal Promoter:-1205, PBMC; 10:45072520, PBMC; 10:46222487, FAM21C||Proximal Promoter:-160, PBMC; 10:47964834, PBMC; 10:4868386, AKR1E2||Proximal Promoter:-15, PBMC; 10:4868398, AKR1E2||Proximal Promoter:-3, PBMC; 10:4868690, AKR1E2||Proximal Promoter:289, PBMC; 10:49348564, PBMC; 10:49654342, ARHGAP22||Exon 8:47350|Exon 9:110381|Exon 10:158834|Exon 10:206105|Exon 11:209968, PBMC; 10:49659559, ARHGAP22||Intron 6:42133|Intron 7:105164|Intron 8:153617|Intron 8:200888|Intron

9:204751, PBMC; 10:5047487, AKR1C2||Proximal Promoter:-1281|Intron 2:12738, PBMC; 10:50979405, OGDHL||5' Proximal Enhancer:-8980, PBMC; 10:51361773, LOC728407||Exon 2:9543, PBMC; 10:51549505, MSMB||Proximal Promoter:-47, PBMC; 10:5237853, AKR1C4||Proximal Promoter:-944, PBMC; 10:52835078, 10:52835078, PRKG1||Intron 1:84168|Intron 1:845, PBMC; 10:53639124, PBMC; 10:537033, DIP2C||Intron 1:198575, PBMC; 10:59949191, IPMK||3' Proximal Enhancer:78503, PBMC; 10:60274200, BICC1||Intron 1:1297, PBMC; 10:60935663, PHYHIPL||Proximal Promoter:-1563|Proximal Promoter:-684, PBMC; 10:60936794, PHYHIPL||Proximal Promoter:-432|Proximal Promoter:447, PBMC; 10:62041556, ANK3||Intron 1:108078|Intron 1:291158|Intron 2:451728, PBMC; 10:6214016, PBMC; 10:62491911, ANK3||Intron 1:1373, PBMC; 10:68990585, PBMC; 10:69609793, PBMC; 10:70319645, TET1||Proximal Promoter:-471, PBMC; 10:71108752, HK1||Intron 2:30150|Intron 2:33143|Intron 6:78997, PBMC; 10:71168951, HK1||3' Proximal Enhancer:90349|3' Proximal Enhancer:93342|3' Proximal Enhancer:139196, TACR2||Intron 2:7723, PBMC; 10:71339632, NEUROG3||5' Proximal Enhancer:-6422, PBMC; 10:71339886, NEUROG3||5' Proximal Enhancer:-6676, PBMC; 10:71389579, C10orf35||Proximal Promoter:-423, PBMC; 10:72163475, EIF4EBP2||Proximal Promoter:-385, PBMC; 10:72336097, KIAA1274||3' Proximal Enhancer:97534, PBMC; 10:72363216, PRF1||Proximal Promoter:-685, PBMC; 10:73516760, C10orf54||Intron 3:16577, PBMC; 10:73529624, C10orf54||Intron 1:3713, PBMC; 10:73533927, C10orf54||Proximal Promoter:-590, PBMC; 10:73724697, CHST3||Intron 1:578, PBMC; 10:73848817, ASCC1||3' Proximal Enhancer:126934|3' Proximal Enhancer:127050|3' Proximal Enhancer:127382|3' Proximal Enhancer:128075, SPOCK2||Proximal Promoter:-286|Proximal Promoter:-27, PBMC; 10:73848830, ASCC1||3' Proximal Enhancer:126921|3' Proximal Enhancer:127037|3' Proximal Enhancer:127369|3' Proximal Enhancer:128062, SPOCK2||Proximal Promoter:-299|Proximal Promoter:-40, PBMC; 10:73848915, ASCC1||3' Proximal Enhancer:126836|3' Proximal Enhancer:126952|3' Proximal Enhancer:127284|3' Proximal Enhancer:127977, SPOCK2||Proximal Promoter:-384|Proximal Promoter:-125, PBMC; 10:73849124, ASCC1||3' Proximal Enhancer:126627|3' Proximal Enhancer:126743|3' Proximal Enhancer:127075|3' Proximal Enhancer:127768, SPOCK2||Proximal Promoter:-593|Proximal Promoter:-334, PBMC; 10:73849626, ASCC1||3' Proximal Enhancer:126125|3' Proximal Enhancer:126241|3' Proximal Enhancer:126573|3' Proximal Enhancer:127266, SPOCK2||Proximal Promoter:-1095|Proximal Promoter:-836, PBMC; 10:74076930, PBMC; 10:75839302, VCL||Intron 6:81431, PBMC; 10:76349278, ADK||Intron 8:413032|Intron 8:438336, PBMC; 10:76584163, KAT6B||Proximal Promoter:-2215, PBMC; 10:7709962, ITIH5||Proximal Promoter:-1001, PBMC; 10:77156697, ZNF503||3' Proximal Enhancer:4816, ZNF503-AS2||5' Proximal Enhancer:-6816|Distal Promoter:-4588, PBMC; 10:77541764, C10orf11||Proximal Promoter:-754, PBMC; 10:7859676, ATP5C1||3' Proximal Enhancer:29584, TAF3||Proximal Promoter:-996, PBMC; 10:79470820, PBMC; 10:80897427, ZMIZ1||Intron 2:68636, PBMC; 10:8096158, FLJ45983||Proximal Promoter:-711, GATA3||Proximal Promoter:-508, PBMC; 10:8101307, FLJ45983||5' Proximal Enhancer:-5860, GATA3||Intron 3:4641, PBMC; 10:8101513, FLJ45983||5' Proximal Enhancer:-6066, GATA3||Intron 3:4847, PBMC; 10:8101566, FLJ45983||5' Proximal Enhancer:-6119, GATA3||Intron 3:4900, PBMC; 10:82246287, TSPAN14||Intron 1:32250, PBMC; 10:835070, PBMC; 10:839609, PBMC; 10:855060, LARP4B||3' Proximal Enhancer:76642, PBMC; 10:85951128, C10orf99||3' Proximal Enhancer:17575, CDHR1||Distal Promoter:-3283, PBMC; 10:90642003, STAMBPL1||Intron 1:1978, PBMC; 10:91093005, IFIT3||Intron 1:767|Intron 1:5404, PBMC; 10:91093681, IFIT3||Intron 1:1443|Intron 1:6080, PBMC; 10:91173811, 10:91173811, IFIT5||Proximal Promoter:-513, PBMC; 10:91175366, IFIT5||Intron 1:1042, PBMC; 10:92958627, PBMC; 10:93058376, LOC100188947||3' Proximal Enhancer:312841, PBMC; 10:94113651, MARCH5||Exon 6:62732, PBMC; 10:94452311, HHEX||Intron 2:2631, PBMC; 10:99278449, UBTD1||Intron 1:19682, PBMC; 10:99735010, CRTAC1||Intron 2:55575, PBMC; 10:99790910, CRTAC1||Proximal Promoter:-325, PBMC; 11:1001560, 11:1001560, AP2A2||Intron 15:75752, PBMC; 11:100760935, ARHGAP42||Intron 4:202529, PBMC; 11:101454680, PBMC; 11:101980380, YAP1||Distal Promoter:-2790|Proximal Promoter:-811, PBMC; 11:104643591, PBMC; 11:10473038, AMPD3||5' Proximal Enhancer:-9639|Distal Promoter:-4442|Distal Promoter:-3627|Intron 1:815|Intron 1:1171, PBMC; 11:104817914, CASP4||Exon 7:9508|Exon 7:21411, PBMC; 11:105806773, PBMC; 11:110649234, PBMC; 11:111637613, PPP2R1B||Proximal Promoter:-444, PBMC; 11:11169707, PBMC; 11:111783327, C11orf52||5' Proximal Enhancer:-6273, CRYAB||Proximal Promoter:-854, PBMC; 11:111783563, C11orf52||5' Proximal Enhancer:-6037, CRYAB||Proximal Promoter:-1090, PBMC; 11:111847984, DIXDC1||Proximal Promoter:-48|Intron 5:40058, PBMC; 11:111848078, DIXDC1||Proximal Promoter:46|Intron 5:40152, PBMC; 11:112831501, NCAM1||Proximal Promoter:-467, PBMC; 11:112833773, 11:112833773, NCAM1||Intron 1:1805, PBMC; 11:114670551, PBMC; 11:115571126, PBMC; 11:11642011, PBMC; 11:116522252, PBMC; 11:117477155, DSCAML1||Intron 3:190821, PBMC; 11:117696743, FXYD2||Proximal Promoter:-1284|Intron 1:2064, FXYD6-FXYD2||Intron 6:51003, PBMC; 11:118022607,

SCN4B||5' Proximal Enhancer:-6423|Intron 1:1023, PBMC; 11:118095544, AMICA1||Proximal Promoter:265, MPZL3||3' Proximal Enhancer:27467, PBMC; 11:118134912, MPZL2||Proximal Promoter:339, PBMC; 11:118135105, MPZL2||Proximal Promoter:146, PBMC; 11:118402280, MLL||3' Proximal Enhancer:95076, TMEM25||Proximal Promoter:478, PBMC; 11:118741387, PBMC; 11:118986793, C2CD2L||Exon 14:8701, HINFP||5' Proximal Enhancer:-5439, PBMC; 11:118986860, C2CD2L||Exon 14:8768, HINFP||5' Proximal Enhancer:-5372, PBMC; 11:119137279, CBL||Intron 2:60290, PBMC; 11:119293780, LOC100499227||Intron 2:41293, THY1||Proximal Promoter:466, PBMC; 11:119468660, PBMC; 11:120039642, PBMC; 11:120516366, PBMC; 11:121322456, SORL1||Proximal Promoter:-455, PBMC; 11:121323934, SORL1||Intron 1:1023, PBMC; 11:121507724, SORL1||3' Proximal Enhancer:184813, PBMC; 11:121971092, MIR100HG||Intron 3:102678, MIR125B1||Proximal Promoter:-540, PBMC; 11:122845972, BSX||3' Proximal Enhancer:6407, PBMC; 11:122870002, PBMC; 11:122954435, CLMP||Exon 4:111572, PBMC; 11:12399498, PARVA||Proximal Promoter:473, PBMC; 11:124324477, PBMC; 11:124439146, OR8A1||Proximal Promoter:-818, PBMC; 11:124734412, ROBO3||Proximal Promoter:-892, PBMC; 11:124791197, HEPACAM||Exon 7:15111, HEPN1||3' Proximal Enhancer:2052, PBMC; 11:125170859, PKNOX2||Intron 2:136301, PBMC; 11:125657958, 11:125657958, PATE2||5' Proximal Enhancer:-9244, PATE3||Proximal Promoter:-47, PBMC; 11:126286828, KIRREL3||3' Proximal Enhancer:583938, ST3GAL4||3' Proximal Enhancer:10752|3' Proximal Enhancer:13518|3' Proximal Enhancer:61040|3' Proximal Enhancer:61289, PBMC; 11:126290232, KIRREL3||3' Proximal Enhancer:580534, ST3GAL4||3' Proximal Enhancer:14156|3' Proximal Enhancer:16922|3' Proximal Enhancer:64444|3' Proximal Enhancer:64693, PBMC; 11:126456119, KIRREL3||Intron 1:414647, PBMC; 11:126872863, KIRREL3-AS3||Proximal Promoter:59, PBMC; 11:128418949, ETS1||Intron 3:38504, PBMC; 11:12851817, TEAD1||Intron 3:155849, PBMC; 11:128710122, KCNJ1||Exon 2:2241|Exon 4:27146, PBMC; 11:128729960, KCNJ1||Intron 2:7308, PBMC; 11:129150329, PBMC; 11:129685751, TMEM45B||Proximal Promoter:11, PBMC; 11:129723947, NFRKB||3' Proximal Enhancer:38957|3' Proximal Enhancer:41543, TMEM45B||Intron 2:38207, PBMC; 11:129723987, NFRKB||3' Proximal Enhancer:38917|3' Proximal Enhancer:41503, TMEM45B||Intron 2:38247, PBMC; 11:129991445, APLP2||Intron 4:50983|Intron 4:51730, PBMC; 11:129992297, APLP2||Exon 6:51835|Intron 3:52582, PBMC; 11:129992359, APLP2||Exon 6:51897|Intron 3:52644, PBMC; 11:129992365, APLP2||Exon 6:51903|Intron 3:52650, PBMC; 11:129992368, APLP2||Exon 6:51906|Intron 3:52653, PBMC; 11:132735814, OPCML||Intron 1:77223|Intron 2:666589, PBMC; 11:132830277, OPCML||Intron 1:572126, PBMC; 11:132948244, OPCML||Intron 1:454159, PBMC; 11:133703094, SPATA19||3' Proximal Enhancer:12298, PBMC; 11:133800774, 11:133800774, IGSF9B||Intron 11:26106, PBMC; 11:133821252, IGSF9B||Intron 1:5628, PBMC; 11:134095863, 11:134095863, NCAPD3||Proximal Promoter:-1437, VPS26B||Intron 1:1303, PBMC; 11:134513817, PBMC; 11:134632361, PBMC; 11:1403976, BRSK2||5' Proximal Enhancer:-7152, PBMC; 11:14927456, PBMC; 11:14927489, PBMC; 11:14927549, PBMC; 11:15136380, INSC||Proximal Promoter:-103|Intron 1:2411, PBMC; 11:15136505, INSC||Proximal Promoter:22|Intron 1:2536, PBMC; 11:15180922, INSC||Intron 2:44439|Intron 2:46953, PBMC; 11:16836827, PLEKHA7||Intron 12:199136, PBMC; 11:1689461, FAM99A||3' Proximal Enhancer:2633, PBMC; 11:17741925, MYOD1||Exon 1:816, PBMC; 11:18433500, LDHA||3' Proximal Enhancer:15688|3' Proximal Enhancer:17565, LDHC||Proximal Promoter:-352, PBMC; 11:18433554, LDHA||3' Proximal Enhancer:15742|3' Proximal Enhancer:17619, LDHC||Proximal Promoter:-298, PBMC; 11:18433564, LDHA||3' Proximal Enhancer:15752|3' Proximal Enhancer:17629, LDHC||Proximal Promoter:-288, PBMC; 11:18433683, LDHA||3' Proximal Enhancer:15871|3' Proximal Enhancer:17748, LDHC||Proximal Promoter:-169, PBMC; 11:1858572, SYT8||Exon 9:2899, TNNI2||Distal Promoter:-2859|Proximal Promoter:-2146|Proximal Promoter:-1660, PBMC; 11:1859381, SYT8||3' Proximal Enhancer:3708, TNNI2||Proximal Promoter:-2050|Proximal Promoter:-1337|Proximal Promoter:-851, PBMC; 11:20384377, HTATIP2||Proximal Promoter:-1309|Proximal Promoter:-1025|Proximal Promoter:-911|Proximal Promoter:-869|Proximal Promoter:-853, PBMC; 11:20385085, HTATIP2||Proximal Promoter:-601|Proximal Promoter:-317|Proximal Promoter:-203|Proximal Promoter:-161|Proximal Promoter:-145, PBMC; 11:20617937, SLC6A5||Distal Promoter:-3008, PBMC; 11:2154132, IGF2||Exon 4:6072|Exon 5:8209|Exon 5:16701, IGF2-AS||5' Proximal Enhancer:-7625, PBMC; 11:2161374, IGF2||Proximal Promoter:-1170|Exon 2:967|Intron 2:9459, IGF2-AS||Proximal Promoter:-383, PBMC; 11:2161403, IGF2||Proximal Promoter:-1199|Exon 2:938|Intron 2:9430, IGF2-AS||Proximal Promoter:-354, PBMC; 11:2161894, IGF2||Proximal Promoter:-1690|Proximal Promoter:447|Intron 2:8939, IGF2-AS||Proximal Promoter:137, PBMC; 11:2162183, IGF2||Proximal Promoter:-1979|Proximal Promoter:158|Intron 2:8650, IGF2-AS||Proximal Promoter:426, PBMC; 11:2292525, ASCL2||Proximal Promoter:-343, PBMC; 11:2292544, ASCL2||Proximal Promoter:-362, PBMC; 11:2321800, C11orf21||Exon 3:1343, TSPAN32||Proximal Promoter:-1442, PBMC; 11:2321937, C11orf21||Intron 1:1206, TSPAN32||Proximal Promoter:-1305, PBMC; 11:2321955, C11orf21||Intron 1:1188,

TSPAN32||Proximal Promoter:-1287, PBMC; 11:24346161, PBMC; 11:24518737, LUZP2||Proximal Promoter:222, PBMC; 11:2554583, KCNQ1||Intron 2:71900|Intron 2:88363, PBMC; 11:2555203, KCNQ1||Intron 2:72520|Intron 2:88983, PBMC; 11:25794249, PBMC; 11:27226988, PBMC; 11:28588618, PBMC; 11:28642652, PBMC; 11:288305, ATHL1||Proximal Promoter:-832, IFITM5||3' Proximal Enhancer:11221, PBMC; 11:2890725, KCNQ1DN||Proximal Promoter:-537, PBMC; 11:2930995, SLC22A18||Intron 5:7484|Intron 5:10045, SLC22A18AS||5' Proximal Enhancer:-5820, PBMC; 11:30038672, KCNA4||Proximal Promoter:-95, PBMC; 11:30038685, KCNA4||Proximal Promoter:-108, PBMC; 11:30038692, KCNA4||Proximal Promoter:-115, PBMC; 11:300404, ATHL1||3' Proximal Enhancer:11267, IFITM2||5' Proximal Enhancer:-7702, PBMC; 11:3174092, OSBPL5||Intron 1:12490, PBMC; 11:31819380, PAX6||Intron 8:13499|Intron 7:20129, PBMC; 11:32009163, PBMC; 11:32449450, WT1||Intron 3:2913|Intron 3:7631, WT1-AS||5' Proximal Enhancer:-7834, PBMC; 11:32449638, WT1||Intron 2:2725|Intron 2:7443, WT1-AS||5' Proximal Enhancer:-7646, PBMC; 11:32456340, WT1||Distal Promoter:-3977|Exon 1:741, WT1-AS||Proximal Promoter:-944, PBMC; 11:3443202, PBMC; 11:35105199, PBMC; 11:351064, PBMC; 11:351125, PBMC; 11:36072436, PBMC; 11:3817849, NUP98||Intron 1:1173, PGAP2||Proximal Promoter:-1340|Proximal Promoter:-1282|Proximal Promoter:-1199|Proximal Promoter:-1104, PBMC; 11:40315404, LRRC4C||Proximal Promoter:260, PBMC; 11:4113452, RRM1||Proximal Promoter:-2471, PBMC; 11:41481578, PBMC; 11:415441, ANO9||3' Proximal Enhancer:26570, SIGIRR||Proximal Promoter:-442|Intron 1:1956, PBMC; 11:43569555, PBMC; 11:43969000, C11orf96||3' Proximal Enhancer:4895, PBMC; 11:44341446, ALX4||5' Proximal Enhancer:-9730, PBMC; 11:44649802, CD82||3' Proximal Enhancer:62662, PBMC; 11:45114842, PRDM11||Proximal Promoter:-721, PBMC; 11:457278, PTDSS2||Intron 1:6999, PBMC; 11:457304, 11:457304, PTDSS2||Intron 1:7025, PBMC; 11:46355283, DGKZ||Intron 1:829, PBMC; 11:46368045, DGKZ||Proximal Promoter:-910|Intron 1:1229|Intron 1:13591, PBMC; 11:46958073, C11orf49||Proximal Promoter:-177, PBMC; 11:47279352, ACP2||5' Proximal Enhancer:-8895, NR1H3||Proximal Promoter:-115|Intron 1:8904|Intron 2:9502, PBMC; 11:47939769, PBMC; 11:48284249, OR4X1||Proximal Promoter:-1163, PBMC; 11:49003361, LOC120824||Proximal Promoter:-114, PBMC; 11:49073835, TRIM64C||3' Proximal Enhancer:6829, PBMC; 11:49581783, LOC440040||Intron 1:1704, PBMC; 11:5384517, PBMC; 11:5617273, TRIM6||Proximal Promoter:-57, TRIM6|TRIM6-TRIM34||Proximal Promoter:-591, PBMC; 11:56467944, OR9G1|OR9G9||Proximal Promoter:81, PBMC; 11:57159174, PRG2||Proximal Promoter:-1044, PBMC; 11:58825714, PBMC; 11:58830355, PBMC; 11:58830424, PBMC; 11:58920029, FAM111A||Exon 4:7778|Exon 5:9712, PBMC; 11:60534991, MS4A15||Intron 2:10652, PBMC; 11:60719947, SLC15A3||Proximal Promoter:-690, PBMC; 11:60869960, 11:60869960, CD5||Proximal Promoter:31, PBMC; 11:61281763, LRRC10B||3' Proximal Enhancer:5492, MIR4488||3' Proximal Enhancer:5696, PBMC; 11:61781116, PBMC; 11:61793285, PBMC; 11:62092739, PBMC; 11:62690462, CHRM1||Proximal Promoter:-1450, PBMC; 11:63259187, HRASLS5||Proximal Promoter:-507, PBMC; 11:63259326, HRASLS5||Proximal Promoter:-646, PBMC; 11:637035, DEAF1||3' Proximal Enhancer:58705, DRD4||Proximal Promoter:-269, PBMC; 11:64635774, EHD1||Intron 2:10417, PBMC; 11:6477831, TRIM3||Exon 7:17383|Exon 6:17858, PBMC; 11:64936920, SPDYC||Proximal Promoter:-786, PBMC; 11:65211084, MIR612||Proximal Promoter:-844, PBMC; 11:65325158, LTBP3||Exon 1:541, PBMC; 11:65341001, EHBP1L1||Distal Promoter:-2507, FAM89B||Exon 2:1182, PBMC; 11:65631880, CFL1||5' Proximal Enhancer:-6076, EFEMP2||3' Proximal Enhancer:8525, PBMC; 11:65839402, PACS1||Intron 1:1579, SF3B2||3' Proximal Enhancer:19587, PBMC; 11:6592297, DNHD1||Exon 42:73772, PBMC; 11:6592585, DNHD1||Exon 42:74060, PBMC; 11:6592745, 11:6592745, DNHD1||Intron 42:74220, PBMC; 11:66326767, ACTN3||Exon 12:12377, CTSF||3' Proximal Enhancer:9280, PBMC; 11:66326798, ACTN3||Exon 12:12408, CTSF||3' Proximal Enhancer:9249, PBMC; 11:66327250, ACTN3||Intron 12:12860, CTSF||3' Proximal Enhancer:8797, PBMC; 11:66791038, SYT12||Proximal Promoter:223|Intron 1:849, PBMC; 11:67070738, ANKRD13D||3' Proximal Enhancer:13923|3' Proximal Enhancer:13977, SSH3||Proximal Promoter:-180, PBMC; 11:67186575, CARNS1||Exon 5:3427, RPS6KB2||5' Proximal Enhancer:-9359, PBMC; 11:67351786, GSTP1||Intron 2:721, PBMC; 11:67499431, PBMC; 11:67979188, SUV420H1||Intron 1:1596, PBMC; 11:68096138, 11:68096138, LRP5||Intron 1:16031, PBMC; 11:69489380, ORAOV1||Intron 1:785, PBMC; 11:69587473, FGF4||3' Proximal Enhancer:2698, PBMC; 11:69683359, PBMC; 11:69924352, ANO1||5' Proximal Enhancer:-7163|Proximal Promoter:-55, PBMC; 11:69924724, ANO1||5' Proximal Enhancer:-6791|Proximal Promoter:317, PBMC; 11:69934031, ANO1||Exon 2:2516|Exon 2:9624, PBMC; 11:70262058, CTTN||Intron 7:17447, PBMC; 11:70564414, 11:70564414, SHANK2||Intron 11:371394, PBMC; 11:705892, EPS8L2||Proximal Promoter:-227, TMEM80||3' Proximal Enhancer:10277, PBMC; 11:70692038, SHANK2||Intron 8:243770, PBMC; 11:71150247, DHCR7||Intron 6:9230, PBMC; 11:71276654, KRTAP5-10||Proximal Promoter:46, PBMC; 11:71295908, KRTAP5-11||Proximal Promoter:-1987, PBMC; 11:71524500,

PBMC; 11:71709837, IL18BP||Proximal Promoter:-1135|Proximal Promoter:-825|Proximal Promoter:-271|Proximal Promoter:-120, NUMA1||3' Proximal Enhancer:81736, PBMC; 11:71752919, NUMA1||Intron 2:38654, PBMC; 11:71752971, NUMA1||Intron 2:38602, PBMC; 11:72385698, PBMC; 11:7273498, SYT9||Proximal Promoter:318, PBMC; 11:75139390, GDPD5||3' Proximal Enhancer:97209, KLHL35||Intron 2:2284, PBMC; 11:75139544, GDPD5||3' Proximal Enhancer:97055, KLHL35||Exon 2:2130, PBMC; 11:75139736, GDPD5||3' Proximal Enhancer:96863, KLHL35||Intron 1:1938, PBMC; 11:76903134, MYO7A||Exon 31:63819|Exon 31:63825, PBMC; 11:77299805, AQP11||Proximal Promoter:-874, PBMC; 11:79152102, PBMC; 11:8190152, RIC3||Proximal Promoter:438, PBMC; 11:86085623, CCDC81||Proximal Promoter:-154, PBMC; 11:86472904, PBMC; 11:87908558, RAB38||Proximal Promoter:77, PBMC; 11:88242488, GRM5||Exon 9:538752|Exon 9:554328, PBMC; 11:89323282, NOX4||Proximal Promoter:-503, PBMC; 11:89477675, PBMC; 11:93064234, CCDC67||Proximal Promoter:352, PBMC; 11:93583253, VSTM5||Proximal Promoter:415, PBMC; 11:93583509, VSTM5||Proximal Promoter:159, PBMC; 11:93583650, VSTM5||Proximal Promoter:18, PBMC; 11:93583693, VSTM5||Proximal Promoter:-25, PBMC; 11:94502824, AMOTL1||Intron 1:1317, PBMC; 11:94758691, KDM4DL||Proximal Promoter:270, PBMC; 11:9597577, WEE1||Exon 2:1344|Exon 2:2350, PBMC; 11:96040893, MAML2||Intron 1:35451, PBMC; 11:970389, AP2A2||Intron 3:44581, PBMC; 12:101110754, PBMC; 12:101187093, ANO4||Proximal Promoter:-1280, PBMC; 12:104357288, C12orf73||5' Proximal Enhancer:-6295, TDG||Proximal Promoter:-2304, PBMC; 12:104697514, EID3||Proximal Promoter:5, TXNRD1||Intron 2:16788|Intron 4:87956, PBMC; 12:104697526, EID3||Proximal Promoter:17, TXNRD1||Intron 2:16800|Intron 4:87968, PBMC; 12:104697532, EID3||Proximal Promoter:23, TXNRD1||Intron 2:16806|Intron 4:87974, PBMC; 12:104697545, 12:104697545, EID3||Proximal Promoter:36, TXNRD1||Intron 1:Intron 2:16819|Intron 4:87987, PBMC; 12:104697983, EID3||Proximal Promoter:474, TXNRD1||Intron 2:17257|Intron 4:88425, PBMC; 12:104998531, PBMC; 12:105380772, C12orf45||Intron 1:675, PBMC; 12:105630720, APPL2||Distal Promoter:-3537|Proximal Promoter:-712, PBMC; 12:109899089, KCTD10||Intron 2:16066, PBMC; 12:111099321, HVCN1||Intron 3:27625|Intron 3:28296, PBMC; 12:11244899, TAS2R43||Proximal Promoter:13, PBMC; 12:113655841, IQCD||Intron 1:3039, TPCN1||Distal Promoter:-3418, PBMC; 12:113660045, IQCD||Proximal Promoter:-1165, TPCN1||Intron 1:786, PBMC; 12:113660441, IQCD||Proximal Promoter:-1561, TPCN1||Intron 1:1182, PBMC; 12:113773298, SLC24A6||Proximal Promoter:-373, PBMC; 12:114842031, LOC255480||Distal Promoter:-3968, TBX5||Proximal Promoter:-328|Intron 1:1858|Intron 1:4216, PBMC; 12:114852091, LOC255480||3' Proximal Enhancer:6092, PBMC; 12:114878144, PBMC; 12:115112433, TBX3||Exon 7:9536, PBMC; 12:117501447, TESC||Intron 2:35804, PBMC; 12:120445227, CCDC64||Intron 2:17580, PBMC; 12:120688744, PXN||Proximal Promoter:-780|Intron 1:14830, PBMC; 12:120806383, MSI1||Intron 2:575, PBMC; 12:121678474, CAMKK2||Exon 16:56082|Exon 17:57637, P2RX4||3' Proximal Enhancer:30811, PBMC; 12:121678720, CAMKK2||Intron 15:55836|Intron 16:57391, P2RX4||3' Proximal Enhancer:31057, PBMC; 12:122018897, KDM2B||Proximal Promoter:-533|Proximal Promoter:23, PBMC; 12:122019006, KDM2B||Proximal Promoter:-642|Proximal Promoter:-86, PBMC; 12:122019031, KDM2B||Proximal Promoter:-667|Proximal Promoter:-111, PBMC; 12:122019076, KDM2B||Proximal Promoter:-712|Proximal Promoter:-156, PBMC; 12:122019080, KDM2B||Proximal Promoter:-716|Proximal Promoter:-160, PBMC; 12:122019117, KDM2B||Proximal Promoter:-753|Proximal Promoter:-197, PBMC; 12:122019525, KDM2B||Proximal Promoter:-1161|Proximal Promoter:-605, PBMC; 12:122020661, KDM2B||Proximal Promoter:-2297|Proximal Promoter:-1741, PBMC; 12:122233375, LOC338799||Exon 7:8015, RHOF||Proximal Promoter:-1781, PBMC; 12:122356390, PSMD9||3' Proximal Enhancer:29745, WDR66||Proximal Promoter:-72, PBMC; 12:122356400, PSMD9||3' Proximal Enhancer:29755, WDR66||Proximal Promoter:-62, PBMC; 12:122356598, PSMD9||3' Proximal Enhancer:29953, WDR66||Proximal Promoter:136, PBMC; 12:122442379, WDR66||3' Proximal Enhancer:85917, PBMC; 12:122467179, BCL7A||Intron 1:7319, PBMC; 12:122712381, DIABLO||Proximal Promoter:-313, VPS33A||3' Proximal Enhancer:38687, PBMC; 12:123374731, VPS37B||Intron 1:5981, PBMC; 12:123379308, VPS37B||Intron 1:1404, PBMC; 12:123379569, VPS37B||Intron 1:1143, PBMC; 12:124744261, ZNF664-FAM101A||Intron 3:286500, PBMC; 12:124787691, FAM101A||Intron 1:13982, ZNF664-FAM101A||Intron 3:329930, PBMC; 12:124810173, FAM101A||3' Proximal Enhancer:36464, NCOR2||Intron 48:241837, PBMC; 12:124831017, NCOR2||Intron 33:220993, PBMC; 12:124939526, NCOR2||Intron 8:112484, PBMC; 12:125130348, PBMC; 12:125411780, PBMC; 12:125411922, PBMC; 12:125813494, TMEM132B||Intron 1:2333, PBMC; 12:12619103, DUSP16||3' Proximal Enhancer:96345, LOH12CR1||Exon 4:109084, PBMC; 12:126465510, LOC400084||Intron 1:2410, PBMC; 12:126571072, PBMC; 12:127256717, PBMC; 12:127630812, PBMC; 12:128366031, FLJ37505||Proximal Promoter:-130, PBMC; 12:12849269, GPR19||Proximal Promoter:-148, PBMC; 12:128754513, TMEM132C||Intron 1:2566, PBMC; 12:128869988, PBMC; 12:128898010, PBMC;

12:129282057, SLC15A4||Intron 7:26484, PBMC; 12:129299462, SLC15A4||Exon 2:9079, PBMC; 12:129337339, GLT1D1||Proximal Promoter:-741, PBMC; 12:129456496, GLT1D1||Intron 7:118416, PBMC; 12:129554566, TMEM132D||3' Proximal Enhancer:833646, PBMC; 12:129554587, TMEM132D||3' Proximal Enhancer:833625, PBMC; 12:130388216, TMEM132D||Proximal Promoter:-4, PBMC; 12:130526797, LOC100190940||Proximal Promoter:90, PBMC; 12:130527106, LOC100190940||Proximal Promoter:-219, PBMC; 12:130529514, LOC100190940||Distal Promoter:-2627, PBMC; 12:130705459, PBMC; 12:131519906, GPR133||Intron 13:81455, PBMC; 12:131519998, GPR133||Intron 13:81547, PBMC; 12:131590596, GPR133||Intron 17:152145, PBMC; 12:132149032, PBMC; 12:132170153, PBMC; 12:132312461, MMP17||Proximal Promoter:-479, PBMC; 12:132314538, MMP17||Intron 1:1598, PBMC; 12:132338464, MMP17||3' Proximal Enhancer:25524, PBMC; 12:132401816, ULK1||Intron 21:22538, PBMC; 12:132433838, EP400||Proximal Promoter:-626, PUS1||3' Proximal Enhancer:20026|3' Proximal Enhancer:20041|3' Proximal Enhancer:20094, PBMC; 12:132659395, PBMC; 12:132698423, GALNT9||5' Proximal Enhancer:-7850|Intron 6:207482, PBMC; 12:132859608, GALNT9||Intron 2:46297, LOC100130238||3' Proximal Enhancer:7632, PBMC; 12:132882028, PBMC; 12:132929908, PBMC; 12:132950559, PBMC; 12:132965879, PBMC; 12:132970228, PBMC; 12:132972807, PBMC; 12:132976866, PBMC; 12:133007812, PBMC; 12:133120548, FBRSL1||Intron 4:53392, PBMC; 12:133185615, LOC100507055||Intron 1:1422, P2RX2||5' Proximal Enhancer:-9787, PBMC; 12:133250118, POLE||Intron 13:13827, PBMC; 12:133348116, ANKLE2||5' Proximal Enhancer:-9665, GOLGA3||Exon 24:57172, PBMC; 12:133348293, ANKLE2||5' Proximal Enhancer:-9842, GOLGA3||Exon 24:56995, PBMC; 12:133532874, ZNF605||Proximal Promoter:-6|Proximal Promoter:18, PBMC; 12:15039025, MGP||Proximal Promoter:-172, PBMC; 12:16762789, LMO3||Distal Promoter:-4476|Distal Promoter:-3885|Distal Promoter:-3253|Distal Promoter:-3055|Distal Promoter:-2705|Proximal Promoter:-1641, PBMC; 12:19635946, AEBP2||Intron 3:43339, PBMC; 12:1973367, PBMC; 12:21324585, SLCO1B1||Intron 2:40458, PBMC; 12:22094699, ABCC9||5' Proximal Enhancer:-5071, PBMC; 12:22486029, ST8SIA1||Intron 1:1619, PBMC; 12:22486454, ST8SIA1||Intron 1:1194, PBMC; 12:22486484, ST8SIA1||Intron 1:1164, PBMC; 12:24102832, SOX5||Proximal Promoter:-195|Intron 4:612548, PBMC; 12:24103358, SOX5||Proximal Promoter:-721|Intron 4:612022, PBMC; 12:25055108, BCAT1||Proximal Promoter:214|Intron 1:901|Intron 1:47285, PBMC; 12:25454990, PBMC; 12:26146815, 12:26146815, RASSF8||Intron 1:20128|Intron 1:34852, PBMC; 12:2696048, CACNA1C||Intron 18:533633, PBMC; 12:27164249, TM7SF3||Intron 1:3090, PBMC; 12:27396894, STK38L||Proximal Promoter:-183, PBMC; 12:2743038, CACNA1C||Intron 31:580623, PBMC; 12:27485428, ARNTL2||Proximal Promoter:-358, STK38L||3' Proximal Enhancer:88351, PBMC; 12:2944286, LOC100507424||Proximal Promoter:-1695, NRIP2||Proximal Promoter:-65, PBMC; 12:29936845, TMTC1||Proximal Promoter:-102|Intron 1:847, PBMC; 12:3069765, TEAD4||Intron 1:1018|Intron 2:1288, PBMC; 12:31079694, TSPAN11||Proximal Promoter:-143, PBMC; 12:32277197, BICD1||Intron 1:17013, PBMC; 12:34457254, PBMC; 12:378771, SLC6A13||5' Proximal Enhancer:-6732, PBMC; 12:39299501, CPNE8||Proximal Promoter:-81, PBMC; 12:42066448, PBMC; 12:4488800, FGF23||Proximal Promoter:94, PBMC; 12:4488893, FGF23||Proximal Promoter:1, PBMC; 12:45268613, NELL2||Intron 2:831|Intron 3:1634|Intron 3:2020|Intron 3:39098, PBMC; 12:45611089, ANO6||Intron 2:1214|Intron 1:1320, PBMC; 12:47219626, SLC38A4||Proximal Promoter:154, PBMC; 12:47219705, SLC38A4||Proximal Promoter:75, PBMC; 12:47219793, SLC38A4||Proximal Promoter:-13, PBMC; 12:47219821, SLC38A4||Proximal Promoter:-41, PBMC; 12:47219877, 12:47219877, SLC38A4||Proximal Promoter:-97, PBMC; 12:49366152, WNT1||5' Proximal Enhancer:-6083, WNT10B||Proximal Promoter:-511, PBMC; 12:49505053, LMBR1L||Proximal Promoter:-373, PBMC; 12:49735181, C1QL4||Distal Promoter:-4210, DNAJC22||5' Proximal Enhancer:-5859, PBMC; 12:51318042, METTL7A||Proximal Promoter:-491, PBMC; 12:51318487, METTL7A||Proximal Promoter:-46, PBMC; 12:51570174, TFCP2||Distal Promoter:-3248, PBMC; 12:52215216, FIGNL2||Exon 2:10485, PBMC; 12:52967687, KRT74||Proximal Promoter:-78, PBMC; 12:53075359, KRT1||Proximal Promoter:-1168, KRT77||3' Proximal Enhancer:21888, PBMC; 12:53107910, PBMC; 12:53617382, RARG||Distal Promoter:-3185|Intron 3:8658, PBMC; 12:54333565, HOXC13||Intron 1:990, PBMC; 12:54360511, HOTAIR||Intron 2:2004, HOXC11||5' Proximal Enhancer:-6398, PBMC; 12:54396990, HOXC8||5' Proximal Enhancer:-5899, HOXC9||Exon 2:3114, PBMC; 12:54398518, HOXC8||Distal Promoter:-4371, HOXC9||3' Proximal Enhancer:4642, PBMC; 12:54408091, HOXC4|HOXC5|HOXC6||Distal Promoter:-2550, HOXC8||3' Proximal Enhancer:5202, PBMC; 12:54410727, HOXC4|HOXC5|HOXC6||Proximal Promoter:86, HOXC8||3' Proximal Enhancer:7838, PBMC; 12:54444463, FLJ12825||5' Proximal Enhancer:-7574, HOXC4||Distal Promoter:-3197, PBMC; 12:54809239, ITGA5||Intron 1:3811, PBMC; 12:55362424, KIAA0748||Intron 3:13198|Intron 3:16032, PBMC; 12:55371892, KIAA0748||Intron 1:3730|Intron 1:6564, PBMC; 12:55376897, KIAA0748||Proximal Promoter:-1275|Intron 1:1559, PBMC; 12:55379228, KIAA0748||Distal Promoter:-3606|Proximal Promoter:-

772, PBMC; 12:56222881, DNAJC14||Intron 1:539, MMP19||3' Proximal Enhancer:13854, PBMC; 12:56327217, DGKA||Intron 1:1406|Intron 1:2272, WIBG||5' Proximal Enhancer:-6308|5' Proximal Enhancer:-5520, PBMC; 12:56329615, DGKA||Intron 2:3804|Intron 1:4670, WIBG||5' Proximal Enhancer:-8706|5' Proximal Enhancer:-7918, PBMC; 12:56329641, DGKA||Intron 2:3830|Intron 1:4696, WIBG||5' Proximal Enhancer:-8732|5' Proximal Enhancer:-7944, PBMC; 12:56329731, DGKA||Intron 2:3920|Intron 1:4786, WIBG||5' Proximal Enhancer:-8822|5' Proximal Enhancer:-8034, PBMC; 12:56329903, DGKA||Intron 2:4092|Intron 1:4958, WIBG||5' Proximal Enhancer:-8994|5' Proximal Enhancer:-8206, PBMC; 12:56509603, PA2G4||3' Proximal Enhancer:11501, RPL41||Proximal Promoter:-770, PBMC; 12:56732721, IL23A||Proximal Promoter:59, PAN2||5' Proximal Enhancer:-5188|Distal Promoter:-4884, PBMC; 12:56732723, IL23A||Proximal Promoter:61, PAN2||5' Proximal Enhancer:-5190|Distal Promoter:-4886, PBMC; 12:57421088, MYO1A||3' Proximal Enhancer:22813|3' Proximal Enhancer:23461, PBMC; 12:58008183, ARHGEF25||Exon 7:2966|Exon 8:4221, DTX3||3' Proximal Enhancer:9580, PBMC; 12:58011837, ARHGEF25||3' Proximal Enhancer:6620|3' Proximal Enhancer:7875, B4GALNT1||3' Proximal Enhancer:15148, PBMC; 12:58011856, ARHGEF25||3' Proximal Enhancer:6639|3' Proximal Enhancer:7894, B4GALNT1||3' Proximal Enhancer:15129, PBMC; 12:58013172, ARHGEF25||3' Proximal Enhancer:7955|3' Proximal Enhancer:9210, B4GALNT1||3' Proximal Enhancer:13813, PBMC; 12:58238232, PBMC; 12:58290452, PBMC; 12:6169044, VWF||Intron 13:64792, PBMC; 12:62650767, USP15||Distal Promoter:-3353, PBMC; 12:6277045, PBMC; 12:6420052, PLEKHG6||Proximal Promoter:-1764|Proximal Promoter:-46|Proximal Promoter:451, PBMC; 12:64541117, SRGAP1||Exon 22:302577, PBMC; 12:65019329, MIR548C||3' Proximal Enhancer:3041, MIR548Z||Distal Promoter:-2944, PBMC; 12:6554051, CD27||Proximal Promoter:1, LOC678655||Intron 4:6632, PBMC; 12:6571600, TAPBPL||3' Proximal Enhancer:10424, VAMP1||Exon 5:8243, PBMC; 12:6572482, TAPBPL||3' Proximal Enhancer:11306, VAMP1||Intron 4:7361, PBMC; 12:66286141, HMGA2||Intron 3:67902, PBMC; 12:67197936, PBMC; 12:68845869, PBMC; 12:68848994, PBMC; 12:6898500, CD4||Proximal Promoter:-137, PBMC; 12:69725435, PBMC; 12:7023262, ENO2||Proximal Promoter:-351, LRRC23||Exon 8:9366, PBMC; 12:7055452, ATN1||3' Proximal Enhancer:17973|3' Proximal Enhancer:21827, C12orf57||3' Proximal Enhancer:2250, PBMC; 12:7055458, ATN1||3' Proximal Enhancer:17979|3' Proximal Enhancer:21833, C12orf57||3' Proximal Enhancer:2256, PBMC; 12:72004098, ZFC3H1||Exon 35:53651, PBMC; 12:7260608, C1RL||Intron 2:1261, MATL2963||Proximal Promoter:-295, PBMC; 12:753199, NINJ2||Intron 1:19556, PBMC; 12:76938908, OSBPL8||Intron 1:14681, PBMC; 12:776351, NINJ2||Distal Promoter:-3596, PBMC; 12:78241621, NAV3||Intron 1:16553, PBMC; 12:8015903, SLC2A14||Intron 3:9592, PBMC; 12:8025582, SLC2A14||Proximal Promoter:-87, PBMC; 12:81109337, MYF5||Proximal Promoter:-1370, MYF6||3' Proximal Enhancer:7930, PBMC; 12:81109806, MYF5||Proximal Promoter:-901, MYF6||3' Proximal Enhancer:8399, PBMC; 12:82153109, PPFIA2||Proximal Promoter:-823|Proximal Promoter:-635|Proximal Promoter:0, PBMC; 12:89638890, PBMC; 12:90057674, ATP2B1||5' Proximal Enhancer:-7830, PBMC; 12:9065171, PHC1||Proximal Promoter:-2144, PBMC; 12:9065639, PHC1||Proximal Promoter:-1676, PBMC; 12:92524968, BTG1||3' Proximal Enhancer:14705, PBMC; 12:94995915, TMCC3||Intron 1:48409, PBMC; 12:96115707, NTN4||Intron 3:68829, PBMC; 12:96590115, ELK3||Intron 1:1909, PBMC; 12:96604497, ELK3||Intron 1:16291, PBMC; 12:96720813, CDK17||Intron 2:73553, PBMC; 12:98986887, SLC25A3||Proximal Promoter:-515, SNORA53||5' Proximal Enhancer:-6525, PBMC; 13:100008200, FKSG29||3' Proximal Enhancer:4527, MIR623||Proximal Promoter:-184, PBMC; 13:100218136, TM9SF2||3' Proximal Enhancer:64409, PBMC; 13:100517027, PBMC; 13:100742055, PCCA||Intron 1:787, PBMC; 13:107144026, EFNB2||Exon 5:43362, PBMC; 13:107144036, EFNB2||Exon 5:43352, PBMC; 13:108518445, 13:108518445, FAM155A||Exon 1:1015, PBMC; 13:109147317, PBMC; 13:109352806, MYO16||Intron 2:71236|Intron 2:104307, PBMC; 13:110438578, IRS2||Proximal Promoter:336, PBMC; 13:110959428, COL4A1||Proximal Promoter:68, COL4A2||Proximal Promoter:-202, PBMC; 13:110959668, COL4A1||Proximal Promoter:-172, COL4A2||Proximal Promoter:38, PBMC; 13:110979651, COL4A2||Intron 3:20021, PBMC; 13:111115558, COL4A2||Intron 24:155928, PBMC; 13:111297551, CARKD||3' Proximal Enhancer:29621|3' Proximal Enhancer:29745, CARS2||Intron 12:60929, PBMC; 13:111956623, ARHGEF7||Exon 20:117451|Exon 20:150563|3' Proximal Enhancer:189000, PBMC; 13:111956695, ARHGEF7||Exon 20:117523|Exon 20:150635|3' Proximal Enhancer:189072, PBMC; 13:112310720, PBMC; 13:112727981, SOX1||3' Proximal Enhancer:6069, PBMC; 13:112729515, SOX1||3' Proximal Enhancer:7603, PBMC; 13:112978703, PBMC; 13:112984840, PBMC; 13:112985463, PBMC; 13:113242997, TUBGCP3||Proximal Promoter:-516, PBMC; 13:113328979, C13orf35||Intron 1:27622, PBMC; 13:113407769, ATP11A||Intron 1:63127, PBMC; 13:113510359, ATP11A||Exon 20:165717, PBMC; 13:113539522, ATP11A||Exon 30:194880, PBMC; 13:113646815, MCF2L||5' Proximal Enhancer:-9212|Intron 1:23281, PBMC; 13:113655468, MCF2L||Proximal

Promoter:-559|Intron 1:31934, PBMC; 13:113660246, MCF2L||Intron 1:4219|Intron 1:36712, PBMC; 13:113687399, MCF2L||Intron 3:31372|Intron 3:63865, PBMC; 13:113688268, MCF2L||Intron 3:32241|Intron 3:64734, PBMC; 13:113718045, MCF2L||Intron 5:62018|Intron 5:94511, PBMC; 13:113764555, F7||Intron 2:4451, PBMC; 13:113819073, PROZ||Intron 5:6106, PBMC; 13:113819100, PROZ||Intron 5:6133, PBMC; 13:113829357, PCID2||3' Proximal Enhancer:33672, PROZ||3' Proximal Enhancer:16390, PBMC; 13:114829496, RASA3||Intron 2:68599, PBMC; 13:114829833, RASA3||Intron 2:68262, PBMC; 13:114869122, RASA3||Intron 1:28973, PBMC; 13:114900021, RASA3||Proximal Promoter:-1926, PBMC; 13:114927933, PBMC; 13:19243756, PBMC; 13:19918525, 13:19918525, ANKRD26P3||Intron 1:588, LINC00421||Proximal Promoter:-663, PBMC; 13:20531342, ZMYM2||Proximal Promoter:-1631|Proximal Promoter:-1505|Proximal Promoter:-1467, PBMC; 13:21035079, PBMC; 13:21634945, LATS2||Intron 1:777, PBMC; 13:21872234, PBMC; 13:21893289, PBMC; 13:21893420, PBMC; 13:21896301, PBMC; 13:23310635, PBMC; 13:23412250, PBMC; 13:23412409, PBMC; 13:23499332, PBMC; 13:24120094, PBMC; 13:24270087, PBMC; 13:24824078, PBMC; 13:25746473, FAM123A||Proximal Promoter:-616, PBMC; 13:25746587, FAM123A||Proximal Promoter:-730, PBMC; 13:27998168, GTF3A||Proximal Promoter:-512, PBMC; 13:28366814, GSX1||Proximal Promoter:35, PBMC; 13:28562900, PRHOXNB||Proximal Promoter:-126, PBMC; 13:29914200, MTUS2||Intron 5:315453, PBMC; 13:30002334, MTUS2||Proximal Promoter:-442|Intron 6:403587, PBMC; 13:30055092, MTUS2||Intron 3:52316|Intron 8:456345, PBMC; 13:30728099, PBMC; 13:30887187, KATNAL1||5' Proximal Enhancer:-6024|5' Proximal Enhancer:-5603, PBMC; 13:30963379, PBMC; 13:31041221, HMGB1||Proximal Promoter:-1140, PBMC; 13:31309799, ALOX5AP||Proximal Promoter:155|Exon 2:22185, PBMC; 13:31407120, PBMC; 13:32964454, BRCA2||Intron 24:74838, PBMC; 13:36505140, PBMC; 13:36705446, PBMC; 13:36729137, PBMC; 13:37494744, SMAD9||Proximal Promoter:-335, PBMC; 13:38443783, TRPC4||Proximal Promoter:156, PBMC; 13:40108007, LHFP||Intron 2:69349, PBMC; 13:40762150, FLJ42392||3' Proximal Enhancer:32489, PBMC; 13:40762188, FLJ42392||3' Proximal Enhancer:32451, PBMC; 13:40762435, 13:40762435, FLJ42392||3' Proximal Enhancer:32204, PBMC; 13:40762452, FLJ42392||3' Proximal Enhancer:32187, PBMC; 13:42002627, PBMC; 13:42704154, DGKH||5' Proximal Enhancer:-8023|Intron 3:81312|Intron 4:89983, PBMC; 13:46757415, LCP1||Proximal Promoter:-956, PBMC; 13:47371635, ESD||Proximal Promoter:-268, PBMC; 13:50024703, CAB39L||5' Proximal Enhancer:-6482, SETDB2||Proximal Promoter:-984|Intron 1:6275, PBMC; 13:50703477, PBMC; 13:50703549, PBMC; 13:50703589, PBMC; 13:51640442, GUCY1B2||Proximal Promoter:-149, PBMC; 13:53287193, LECT1||Intron 4:26754, PBMC; 13:53419596, PCDH8||Exon 2:3179, PBMC; 13:61758710, PBMC; 13:68745297, PBMC; 13:69557960, PBMC; 13:76334583, LMO7||Proximal Promoter:-213|Intron 4:140014, PBMC; 13:76334707, LMO7||Proximal Promoter:-89|Intron 4:140138, PBMC; 13:76334728, LMO7||Proximal Promoter:-68|Intron 4:140159, PBMC; 13:76334866, LMO7||Proximal Promoter:70|Intron 4:140297, PBMC; 13:79161619, PBMC; 13:79233506, RNF219||Proximal Promoter:-192, PBMC; 13:88325263, SLITRK5||Proximal Promoter:394, PBMC; 13:93879670, GPC6||Exon 1:593, PBMC; 13:95248882, GPR180||5' Proximal Enhancer:-5221, TGDS||Proximal Promoter:-371, PBMC; 13:96204978, CLDN10||Proximal Promoter:32|Intron 1:119126, PBMC; 13:98002933, MBNL2||Intron 5:128360, PBMC; 13:99218657, STK24||Intron 1:10739, PBMC; 13:99934873, PBMC; 13:99960369, GPR183||Proximal Promoter:-620, PBMC; 14:100055669, CCDC85C||Intron 1:15058, PBMC; 14:100072073, CCDC85C||Proximal Promoter:-1346, PBMC; 14:100689613, PBMC; 14:100744154, YY1||Exon 5:39053, PBMC; 14:100906689, WDR25||Intron 2:63857|Intron 2:63935, PBMC; 14:101012996, BEGAIN||Exon 2:21411|Exon 3:23135, PBMC; 14:101013174, BEGAIN||Intron 1:21233|Intron 2:22957, PBMC; 14:101121018, LINC00523||Distal Promoter:-2586, PBMC; 14:101121093, LINC00523||Distal Promoter:-2511, PBMC; 14:101178554, PBMC; 14:101432120, SNORD114-10||Proximal Promoter:-1268, SNORD114-11||Proximal Promoter:-2327, PBMC; 14:101826652, PBMC; 14:101874838, PBMC; 14:102105208, PBMC; 14:102176671, PBMC; 14:102226416, PPP2R5C||Proximal Promoter:-1718, PBMC; 14:102226547, PPP2R5C||Proximal Promoter:-1587, PBMC; 14:102487020, DYNC1H1||Intron 42:56156, PBMC; 14:102983855, ANKRD9||5' Proximal Enhancer:-7727, PBMC; 14:103018726, PBMC; 14:103367591, TRAF3||Intron 9:123776, PBMC; 14:103572194, EXOC3L4||Intron 6:5714, PBMC; 14:104625669, KIF26A||Intron 4:20610, PBMC; 14:104652867, KIF26A||3' Proximal Enhancer:47808, PBMC; 14:104866284, PBMC; 14:105011965, PBMC; 14:106025958, PBMC; 14:106091981, PBMC; 14:106791268, PBMC; 14:106892175, PBMC; 14:107095056, PBMC; 14:19647166, PBMC; 14:20691777, OR11H6||Proximal Promoter:-91, PBMC; 14:20945319, PNP||Exon 6:7782, PBMC; 14:21156471, ANG||Intron 1:4136, ANG|RNASE4||Proximal Promoter:-460, PBMC; 14:21271148, RNASE1||Proximal Promoter:-590|Proximal Promoter:-112, PBMC; 14:21317205, PBMC; 14:21423769, RNASE2||Proximal Promoter:140, PBMC; 14:21660372, LOC283624||3' Proximal Enhancer:13290|3' Proximal Enhancer:14687, PBMC; 14:22279816,

PBMC; 14:22370643, PBMC; 14:22986466, PBMC; 14:23769690, BCL2L2||5' Proximal Enhancer:-6378, BCL2L2|BCL2L2-PABPN1||5' Proximal Enhancer:-6280, PBMC; 14:23834977, EFS||Proximal Promoter:-135, IL25||5' Proximal Enhancer:-7092|5' Proximal Enhancer:-7040, PBMC; 14:23835595, EFS||Proximal Promoter:-753, IL25||5' Proximal Enhancer:-6474|5' Proximal Enhancer:-6422, PBMC; 14:23938418, NGDN||Proximal Promoter:-479, PBMC; 14:24563095, NRL||5' Proximal Enhancer:-9263, PCK2||Proximal Promoter:-387, PBMC; 14:24587638, DCAF11||Exon 7:3145|Exon 6:3147|Exon 7:3653|Exon 7:3733, PBMC; 14:24601808, DCAF11||3' Proximal Enhancer:17315|3' Proximal Enhancer:17317|3' Proximal Enhancer:17823|3' Proximal Enhancer:17903, FAM158A||3' Proximal Enhancer:8989, PBMC; 14:24837146, NFATC4||Proximal Promoter:-1155|Proximal Promoter:-79|Intron 1:1002, PBMC; 14:27067707, NOVA1||Proximal Promoter:-747, PBMC; 14:27068093, NOVA1||Proximal Promoter:-1133, PBMC; 14:30396444, PRKD1||Proximal Promoter:455, PBMC; 14:30396515, 14:30396515, PRKD1||Proximal Promoter:384, PBMC; 14:32728466, PBMC; 14:34305222, PBMC; 14:36987408, NKX2-1||Intron 1:1495|Intron 2:2022, SFTA3||Distal Promoter:-4418, PBMC; 14:36992233, NKX2-1||Distal Promoter:-3330|Distal Promoter:-2803, SFTA3||5' Proximal Enhancer:-9243, PBMC; 14:36993079, NKX2-1||Distal Promoter:-4176|Distal Promoter:-3649, PBMC; 14:38072401, FOXA1||5' Proximal Enhancer:-7912, PBMC; 14:38678420, SSTR1||Exon 3:1217, PBMC; 14:39619462, TRAPPC6B||Exon 6:20172, PBMC; 14:42077674, LRFN5||Exon 1:911, PBMC; 14:43972223, PBMC; 14:50084155, DNAAF2||3' Proximal Enhancer:17793, LRR1||3' Proximal Enhancer:18741, PBMC; 14:51794932, LOC283553||5' Proximal Enhancer:-5178, PBMC; 14:52482697, NID2||Intron 14:53249, PBMC; 14:52490568, NID2||Intron 12:45378, PBMC; 14:52536175, NID2||Proximal Promoter:-229, PBMC; 14:52733243, PTGDR||Proximal Promoter:-1187, PBMC; 14:52780158, PTGER2||Proximal Promoter:-857, PBMC; 14:52780634, PTGER2||Proximal Promoter:-381, PBMC; 14:54182750, PBMC; 14:54410717, BMP4||3' Proximal Enhancer:10553|3' Proximal Enhancer:12837, PBMC; 14:56046098, KTN1||Proximal Promoter:-826, KTN1-AS1||Intron 1:712, PBMC; 14:56958335, PBMC; 14:58863097, TOMM20L||Proximal Promoter:454, PBMC; 14:59296302, PBMC; 14:60629192, DHRS7||Intron 1:3019, PBMC; 14:60973823, SIX6||Proximal Promoter:-2114, PBMC; 14:61120783, SIX1||Distal Promoter:-4628, PBMC; 14:62523609, SYT16||Intron 1:61069, PBMC; 14:65068527, PBMC; 14:65240980, SPTB||Intron 23:48886, PBMC; 14:66058810, FUT8||Intron 3:179363, PBMC; 14:68163792, RDH11||Proximal Promoter:-1282, RDH12||Distal Promoter:-4810, PBMC; 14:68785498, RAD51B||Intron 8:499003, PBMC; 14:69341905, ACTN1||Intron 21:104178, PBMC; 14:69727860, GALNTL1||Intron 1:1180, PBMC; 14:70040391, C14orf162||Proximal Promoter:-2473, PBMC; 14:70827109, COX16||Proximal Promoter:-661, SYNJ2BP||3' Proximal Enhancer:56698, PBMC; 14:71109707, TTC9||Intron 1:1204, PBMC; 14:71110536, TTC9||Intron 1:2033, PBMC; 14:71577479, PCNX||Exon 36:203358, PBMC; 14:72061746, SIPA1L1||Intron 2:65705, PBMC; 14:73384273, DCAF4||5' Proximal Enhancer:-8766, PBMC; 14:73712902, PAPLN||Intron 5:8698, PBMC; 14:73736972, NUMB||3' Proximal Enhancer:188314, PAPLN||Intron 25:32768, PBMC; 14:75741733, FOS||Distal Promoter:-3747, PBMC; 14:76819370, PBMC; 14:77587383, KIAA1737||3' Proximal Enhancer:22806, PBMC; 14:77608587, ZDHHC22||Proximal Promoter:-453, PBMC; 14:77612082, ZDHHC22||Distal Promoter:-3948, PBMC; 14:79760047, NRXN3||Intron 1:14394|Intron 12:889955, PBMC; 14:80678293, DIO2||Proximal Promoter:-429|Proximal Promoter:-323|Intron 2:19104, LOC100628307||Intron 1:532, PBMC; 14:81421983, TSHR||Proximal Promoter:115, PBMC; 14:81421989, TSHR||Proximal Promoter:121, PBMC; 14:81682983, PBMC; 14:84173031, PBMC; 14:89299302, 14:89299302, TTC8||Intron 1:8325, PBMC; 14:90868646, CALM1||Intron 3:5320, PBMC; 14:90995484, PBMC; 14:91294412, PBMC; 14:91621555, PBMC; 14:92301922, TC2N||Intron 1:927|Intron 1:31958, PBMC; 14:93556554, PBMC; 14:93581049, PBMC; 14:93698416, BTBD7||3' Proximal Enhancer:100969, UBR7||3' Proximal Enhancer:25016, PBMC; 14:94405681, ASB2||Exon 6:18086|Exon 8:37395, FAM181A||3' Proximal Enhancer:11951|3' Proximal Enhancer:11993|3' Proximal Enhancer:11994|3' Proximal Enhancer:20442, PBMC; 14:94491763, OTUB2||Proximal Promoter:-960, PBMC; 14:95156546, PBMC; 14:95331190, PBMC; 14:95731916, CLMN||Intron 1:54329, PBMC; 14:96038687, PBMC; 14:96505502, C14orf132||Proximal Promoter:-159|Proximal Promoter:-158, PBMC; 14:96526884, C14orf132||Intron 1:21223|Intron 1:21224, PBMC; 14:99413386, PBMC; 14:99681710, BCL11B||Intron 3:56112, PBMC; 14:99682269, BCL11B||Intron 3:55553, PBMC; 14:99711752, BCL11B||Intron 2:26070, PBMC; 14:99711840, BCL11B||Intron 2:25982, PBMC; 14:99712369, BCL11B||Intron 2:25453, PBMC; 14:99712966, BCL11B||Intron 2:24856, PBMC; 14:99734018, BCL11B||Intron 1:3804, PBMC; 14:99787559, PBMC; 15:100514121, ADAMTS17||Exon 22:368062, PBMC; 15:100913934, PBMC; 15:20562413, PBMC; 15:21970348, PBMC; 15:21995943, PBMC; 15:23115232, LOC283683||Proximal Promoter:22, PBMC; 15:23157727, PBMC; 15:23454144, GOLGA8E||3' Proximal Enhancer:19075, PBMC; 15:23455599, GOLGA8E||3' Proximal Enhancer:20530, PBMC; 15:25018302, PBMC; 15:26107410, PBMC; 15:26108391, PBMC; 15:27017560, GABRB3||Exon 3:663|Exon

3:1375, PBMC; 15:27018037, GABRB3||Proximal Promoter:186|Intron 1:898, PBMC; 15:27111435, GABRA5||Proximal Promoter:-837|Proximal Promoter:-430, PBMC; 15:27111572, GABRA5||Proximal Promoter:-700|Proximal Promoter:-293, PBMC; 15:27112305, GABRA5||Proximal Promoter:33|Proximal Promoter:440, PBMC; 15:27212911, GABRG3||Distal Promoter:-3517, PBMC; 15:27216008, GABRG3||Proximal Promoter:-420, PBMC; 15:28014040, OCA2||Intron 23:330418, PBMC; 15:28053339, OCA2||Intron 23:291119, PBMC; 15:28200653, OCA2||Intron 16:143805, PBMC; 15:28351607, HERC2||3' Proximal Enhancer:215688, OCA2||5' Proximal Enhancer:-7149, PBMC; 15:28567519, HERC2||Proximal Promoter:-224, PBMC; 15:29034669, LOC100289656||3' Proximal Enhancer:1281, LOC646278||Proximal Promoter:-310, PBMC; 15:29034942, LOC100289656||3' Proximal Enhancer:1554, LOC646278||Proximal Promoter:-37, PBMC; 15:29034950, LOC100289656||3' Proximal Enhancer:1562, LOC646278||Proximal Promoter:-29, PBMC; 15:29763183, PBMC; 15:29862517, PBMC; 15:29862568, PBMC; 15:30517601, PBMC; 15:30920627, ARHGAP11B||Intron 1:1749, PBMC; 15:31108938, PBMC; 15:31775895, OTUD7A||Exon 11:171647, PBMC; 15:34782820, PBMC; 15:34788847, PBMC; 15:35086890, ACTC1||Exon 2:1037, PBMC; 15:36699121, PBMC; 15:39542877, C15orf54||Proximal Promoter:-7, PBMC; 15:40233976, EIF2AK4||Intron 2:7630, PBMC; 15:40803416, PBMC; 15:41056786, C15orf62||5' Proximal Enhancer:-5372, DNAJC17||3' Proximal Enhancer:42890, PBMC; 15:41100308, PPP1R14D||3' Proximal Enhancer:20599, ZFYVE19||Intron 1:1035, PBMC; 15:41219238, DLL4||Proximal Promoter:-2292, PBMC; 15:41224537, DLL4||Exon 6:3007, PBMC; 15:41914347, PBMC; 15:43984922, 15:43984922, CKMT1A||Proximal Promoter:-161, PBMC; 15:45028161, TRIM69||Proximal Promoter:-398, PBMC; 15:45028270, TRIM69||Proximal Promoter:-289, PBMC; 15:45405103, DUOX2||Intron 3:1256, DUOXA1||3' Proximal Enhancer:16954, PBMC; 15:45409319, DUOX2||Distal Promoter:-2960, DUOXA1||3' Proximal Enhancer:12738, PBMC; 15:45422004, DUOX1||Proximal Promoter:-187, DUOXA1||Proximal Promoter:53, PBMC; 15:45422054, DUOX1||Proximal Promoter:-137, DUOXA1||Proximal Promoter:3, PBMC; 15:45422062, DUOX1||Proximal Promoter:-129, DUOXA1||Proximal Promoter:-5, PBMC; 15:45427034, DUOX1||Intron 5:4843, DUOXA1||Distal Promoter:-4977, PBMC; 15:45926780, 15:45926780, SQRDL||Proximal Promoter:-475, PBMC; 15:47476436, SEMA6D||Proximal Promoter:34, PBMC; 15:50352288, ATP8B4||Intron 3:59131, PBMC; 15:50410962, ATP8B4||Proximal Promoter:457, PBMC; 15:50540269, HDC||Intron 10:17893, PBMC; 15:51634039, GLDN||Proximal Promoter:327, PBMC; 15:55513621, RAB27A||Intron 6:48863|Intron 5:48971|Intron 6:49486|Intron 6:68392, PBMC; 15:55574912, RAB27A||Intron 1:7101, PBMC; 15:55881162, PYGO1||Proximal Promoter:-112, PBMC; 15:58521438, PBMC; 15:58624534, PBMC; 15:58650472, PBMC; 15:60290666, FOXB1||5' Proximal Enhancer:-5754, PBMC; 15:60706369, NARG2||3' Proximal Enhancer:64975, PBMC; 15:60868149, RORA||Intron 1:16558|Intron 2:51580|Intron 2:653353, PBMC; 15:62798895, PBMC; 15:63334699, TPM1||5' Proximal Enhancer:-5936|Proximal Promoter:-138, PBMC; 15:63570327, APH1B||Intron 1:579, PBMC; 15:63751596, PBMC; 15:65174571, PBMC; 15:65175729, PBMC; 15:65285669, MTFMT||3' Proximal Enhancer:36308, SPG21||Distal Promoter:-3857|Distal Promoter:-3418, PBMC; 15:65592807, PBMC; 15:66097959, PBMC; 15:68120412, SKOR1||Exon 3:2472, PBMC; 15:68713677, ITGA11||Intron 1:10815, PBMC; 15:69744390, KIF23||3' Proximal Enhancer:37764, RPLP1||Proximal Promoter:-768, PBMC; 15:70387217, PBMC; 15:70388014, PBMC; 15:70391035, PBMC; 15:70779346, PBMC; 15:70852115, PBMC; 15:70877866, PBMC; 15:70925809, PBMC; 15:71532066, THSD4||Intron 3:98279, PBMC; 15:74045705, C15orf59||Proximal Promoter:-1889, PBMC; 15:74244249, LOXL1||Exon 7:25461, PBMC; 15:74249189, LOXL1||3' Proximal Enhancer:30401, PBMC; 15:74345103, PML||3' Proximal Enhancer:58090, PBMC; 15:74425552, ISLR2||Exon 3:2810|Exon 4:2963|Exon 4:3557|Exon 4:3838, LOC283731||Distal Promoter:-3933, PBMC; 15:75019203, CYP1A1||Proximal Promoter:-1326, PBMC; 15:75288616, SCAMP5||Intron 1:741, PBMC; 15:75471200, PBMC; 15:75915192, SNUPN||Intron 1:3254|Intron 1:3527, PBMC; 15:78025260, PBMC; 15:78112847, PBMC; 15:78729989, IREB2||Proximal Promoter:-528, PBMC; 15:78802280, AGPHD1||Intron 1:2375, IREB2||3' Proximal Enhancer:71763, PBMC; 15:78841455, PSMA4||Exon 9:8709, PBMC; 15:80696264, ARNT2||Proximal Promoter:-427, PBMC; 15:80824318, ARNT2||Intron 8:127627, PBMC; 15:81489338, IL16||Proximal Promoter:120, PBMC; 15:81596332, IL16||Intron 4:7079|Intron 15:78693|Intron 16:107114, STARD5||3' Proximal Enhancer:20192, PBMC; 15:83654517, C15orf40||3' Proximal Enhancer:25876, FAM103A1||Proximal Promoter:-437, PBMC; 15:83654524, C15orf40||3' Proximal Enhancer:25869, FAM103A1||Proximal Promoter:-430, PBMC; 15:83655119, C15orf40||3' Proximal Enhancer:25274, FAM103A1||Proximal Promoter:165, PBMC; 15:85360655, ALPK3||Exon 1:745, PBMC; 15:85360664, ALPK3||Exon 1:754, PBMC; 15:86058755, AKAP13||Intron 2:134885, PBMC; 15:86192745, AKAP13||Intron 10:268875, PBMC; 15:89346205, ACAN||Proximal Promoter:-468, PBMC; 15:89354338, ACAN||Intron 1:7665, PBMC; 15:89561135, PBMC; 15:89640878, 15:89640878, ABHD2||Intron 1:Intron

2:9498, PBMC; 15:89922071, LOC254559||Intron 1:799, PBMC; 15:92939006, ST8SIA2||Intron 1:1867, PBMC; 15:94867583, MCTP2||Intron 3:26154, PBMC; 15:95810848, PBMC; 15:95830037, LOC400456||Intron 3:40292, PBMC; 15:95870990, LOC400456||Proximal Promoter:-661, PBMC; 15:96862225, NR2F2||5' Proximal Enhancer:-6931, PBMC; 15:97311928, PBMC; 15:98196022, PBMC; 15:98196077, PBMC; 15:98196234, PBMC; 15:98196247, PBMC; 16:1022650, LMF1||Proximal Promoter:-1666|Intron 1:8668, SOX8||5' Proximal Enhancer:-9157, PBMC; 16:1030166, LMF1||5' Proximal Enhancer:-9182|Intron 1:1152, SOX8||Proximal Promoter:-1641, PBMC; 16:1032260, LMF1||Proximal Promoter:-942, SOX8||Proximal Promoter:453, PBMC; 16:10970200, CIITA||Proximal Promoter:-854, PBMC; 16:11035542, CLEC16A||Distal Promoter:-2802, DEXI||Exon 1:715, PBMC; 16:1139733, C1QTNF8||Exon 5:6511, SSTR5||3' Proximal Enhancer:10953|3' Proximal Enhancer:16978, PBMC; 16:11759492, SNN||Distal Promoter:-2796, PBMC; 16:11761860, SNN||Proximal Promoter:-428, PBMC; 16:11835562, TXNDC11||Intron 1:1086, ZC3H7A||3' Proximal Enhancer:55552, PBMC; 16:12043656, PBMC; 16:12662581, SNX29||Exon 21:591980, PBMC; 16:12995568, SHISA9||Proximal Promoter:92, PBMC; 16:1306346, TPSD1||Proximal Promoter:74, PBMC; 16:1361806, UBE2I||Intron 1:2179|Intron 1:2653, PBMC; 16:1493759, CCDC154||Intron 2:731, CLCN7||3' Proximal Enhancer:31326, PBMC; 16:1507866, CLCN7||Intron 7:17219, PBMC; 16:1509206, CLCN7||Intron 6:15879, PBMC; 16:15219673, PBMC; 16:15603154, C16orf45||Intron 1:7032|Intron 1:74830, PBMC; 16:1575979, IFT140||Exon 21:86130, TMEM204||5' Proximal Enhancer:-8251, PBMC; 16:1583883, IFT140||Intron 19:78226, TMEM204||Proximal Promoter:-347, PBMC; 16:1583899, IFT140||Intron 19:78210, TMEM204||Proximal Promoter:-331, PBMC; 16:1583984, IFT140||Intron 19:78125, TMEM204||Proximal Promoter:-246, PBMC; 16:1584516, IFT140||Intron 19:77593, TMEM204||Proximal Promoter:286, PBMC; 16:1585644, IFT140||Intron 19:76465, TMEM204||Intron 1:1414, PBMC; 16:1586043, IFT140||Intron 19:76066, TMEM204||Intron 1:1813, PBMC; 16:1593415, IFT140||Intron 19:68694, TMEM204||Intron 2:9185, PBMC; 16:1595532, IFT140||Intron 19:66577, TMEM204||Intron 2:11302, PBMC; 16:1609529, IFT140||Intron 18:52580, TMEM204||3' Proximal Enhancer:25299, PBMC; 16:1610898, IFT140||Intron 18:51211, TMEM204||3' Proximal Enhancer:26668, PBMC; 16:16168399, 16:16168399, ABCC1||Intron 14:124966, PBMC; 16:1722957, CRAMP1L||Intron 19:58317, HN1L||5' Proximal Enhancer:-5320, PBMC; 16:17458534, XYLT1||Intron 1:106204, PBMC; 16:1797050, PBMC; 16:1822289, EME2||Proximal Promoter:-939, MRPS34||Exon 3:851, PBMC; 16:1939295, LINC00254||5' Proximal Enhancer:-5063, PBMC; 16:1968576, HS3ST6||Proximal Promoter:-345, PBMC; 16:20363009, PDILT||3' Proximal Enhancer:53024, UMOD||Intron 1:1028, PBMC; 16:21222939, ZP2||Proximal Promoter:-71, PBMC; 16:216450, HBA2||5' Proximal Enhancer:-6395, HBM||Proximal Promoter:478, PBMC; 16:2228828, CASKIN1||Intron 19:17637, TRAF7||3' Proximal Enhancer:23030, PBMC; 16:22929420, HS3ST2||3' Proximal Enhancer:103561, PBMC; 16:2334163, ABCA3||Intron 25:56584, MIR4717||3' Proximal Enhancer:9543, PBMC; 16:23724943, ERN2||Proximal Promoter:-122, PBMC; 16:23766112, CHP2||Proximal Promoter:165, PBMC; 16:25075152, PBMC; 16:27279496, FLJ21408||Proximal Promoter:-29, NSMCE1||Intron 1:617, PBMC; 16:27338391, IL4R||Intron 1:13141, PBMC; 16:27461638, IL21R||Exon 9:23060|Exon 9:48156, LOC283888||Intron 2:3076, PBMC; 16:28074384, GSG1L||Proximal Promoter:446, PBMC; 16:28074388, GSG1L||Proximal Promoter:442, PBMC; 16:28273096, PBMC; 16:28948179, CD19||Intron 7:4920, PBMC; 16:2908892, PRSS22||Proximal Promoter:-721, PBMC; 16:2908934, PRSS22||Proximal Promoter:-763, PBMC; 16:29888733, LOC440356||3' Proximal Enhancer:13579|3' Proximal Enhancer:13730, SEZ6L2||Exon 9:21852, PBMC; 16:30018720, DOC2A||Intron 5:3681, INO80E||3' Proximal Enhancer:11190, PBMC; 16:30023615, DOC2A||Proximal Promoter:-1214, INO80E||3' Proximal Enhancer:16085, PBMC; 16:3017495, KREMEN2||Intron 7:3279, PAQR4||Proximal Promoter:-1846, PBMC; 16:3018991, KREMEN2||3' Proximal Enhancer:4775, PAQR4||Proximal Promoter:-350, PBMC; 16:30485383, ITGAL||Intron 1:1401, PBMC; 16:3079953, CCDC64B||Intron 4:5589, HCFC1R1||5' Proximal Enhancer:-5666, PBMC; 16:31366118, 16:31366118, ITGAX||Proximal Promoter:-390, PBMC; 16:31487813, ARMC5||3' Proximal Enhancer:17497, SLC5A2||5' Proximal Enhancer:-6625, PBMC; 16:31548908, AHSP||3' Proximal Enhancer:9706, PBMC; 16:3210225, PBMC; 16:3230726, PBMC; 16:3242850, PBMC; 16:3334135, ZNF263||Exon 1:649, PBMC; 16:3355079, TIGD7||Proximal Promoter:360, ZNF75A||Proximal Promoter:-353, PBMC; 16:3519514, NAA60||Intron 1:11523|Intron 2:25847, PBMC; 16:3550239, C16orf90||Distal Promoter:-4818, CLUAP1||5' Proximal Enhancer:-9654|Proximal Promoter:-723, PBMC; 16:4033226, ADCY9||Intron 7:132960, PBMC; 16:4042428, ADCY9||Intron 4:123758, PBMC; 16:420230, MRPL28||Proximal Promoter:339, TMEM8A||3' Proximal Enhancer:11720, PBMC; 16:450837, DECR2||Proximal Promoter:-1020, LOC100134368||3' Proximal Enhancer:18597, PBMC; 16:450904, DECR2||Proximal Promoter:-953, LOC100134368||3' Proximal Enhancer:18664, PBMC; 16:450970, DECR2||Proximal Promoter:-887, LOC100134368||3' Proximal Enhancer:18730, PBMC; 16:451040, DECR2||Proximal Promoter:-817, LOC100134368||3' Proximal Enhancer:18800, PBMC; 16:4587854,

C16orf5||Intron 1:617|Intron 1:962, PBMC; 16:4587862, C16orf5||Intron 1:609|Intron 1:954, PBMC; 16:46461209, PBMC; 16:4714794, MGRN1||Intron 6:39970, PBMC; 16:4714815, MGRN1||Intron 6:39991, PBMC; 16:5038226, 16:5038226, SEC14L5||Exon 4:29909, PBMC; 16:50730385, NOD2||Proximal Promoter:-664, PBMC; 16:51169072, SALL1||3' Proximal Enhancer:15436|3' Proximal Enhancer:16111, PBMC; 16:51185459, SALL1||Proximal Promoter:-951|Proximal Promoter:-276, PBMC; 16:51186925, SALL1||Proximal Promoter:-2417|Proximal Promoter:-1742, PBMC; 16:51188129, SALL1||Distal Promoter:-3621|Distal Promoter:-2946, PBMC; 16:51426906, PBMC; 16:51578996, PBMC; 16:53407423, LOC643802||Proximal Promoter:-2382, PBMC; 16:54210496, PBMC; 16:54394989, PBMC; 16:55361547, 16:55361547, IRX6||Exon 4:3077, PBMC; 16:55513480, MMP2||Proximal Promoter:-1993|Proximal Promoter:400, PBMC; 16:55690443, SLC6A2||Proximal Promoter:-112|Proximal Promoter:92|Intron 1:902, PBMC; 16:55866757, CES1||Proximal Promoter:318, PBMC; 16:55866997, CES1||Proximal Promoter:78, PBMC; 16:55867072, CES1||Proximal Promoter:3, PBMC; 16:57625229, PBMC; 16:57673122, GPR56||Proximal Promoter:-84|Intron 1:10704|Intron 1:19213, PBMC; 16:57673258, GPR56||Proximal Promoter:52|Intron 1:10840|Intron 1:19349, PBMC; 16:57727746, CCDC135||Proximal Promoter:-966, GPR97||3' Proximal Enhancer:25590, PBMC; 16:57907171, CNGB1||3' Proximal Enhancer:97849, PBMC; 16:58533979, NDRG4||Proximal Promoter:-67|Intron 3:35254|Intron 3:35986|Intron 3:36431, PBMC; 16:58534681, NDRG4||Intron 1:635|Intron 3:35956|Intron 3:36688|Intron 3:37133, PBMC; 16:58534708, NDRG4||Intron 1:662|Intron 3:35983|Intron 3:36715|Intron 3:37160, PBMC; 16:58548995, CNOT1||3' Proximal Enhancer:114755, NDRG4||3' Proximal Enhancer:14949|3' Proximal Enhancer:50270|3' Proximal Enhancer:51002|3' Proximal Enhancer:51447, PBMC; 16:58704495, SLC38A7||Intron 10:14179, PBMC; 16:62069337, CDH8||Intron 1:1402, PBMC; 16:62070086, CDH8||Exon 1:653, PBMC; 16:6335194, RBFOX1||Intron 1:266063, PBMC; 16:65157428, CDH11||Proximal Promoter:-1509, PBMC; 16:6533163, RBFOX1||Intron 2:464032, PBMC; 16:66585210, CKLF|CKLF-CMTM1||Proximal Promoter:-1255, TK2||Proximal Promoter:-1016|Proximal Promoter:-895, PBMC; 16:67258146, FHOD1||3' Proximal Enhancer:23279, LRRC29||Intron 1:2575|Intron 1:2755, PBMC; 16:67279967, FHOD1||Intron 1:1458, SLC9A5||Distal Promoter:-2887, PBMC; 16:67581437, FAM65A||3' Proximal Enhancer:10073|3' Proximal Enhancer:17898|3' Proximal Enhancer:18718|3' Proximal Enhancer:18721, PBMC; 16:68033589, DPEP2||Proximal Promoter:-225, PBMC; 16:68034002, DPEP2||Proximal Promoter:-638, PBMC; 16:68034227, DPEP2||Proximal Promoter:-863, PBMC; 16:68270129, ESRP2||Proximal Promoter:7, NFATC3||3' Proximal Enhancer:150861, PBMC; 16:68481248, SMPD3||Intron 1:1161, PBMC; 16:68881254, TMCO7||Intron 1:3746, PBMC; 16:69999425, CLEC18A||3' Proximal Enhancer:14616|3' Proximal Enhancer:14800, PBMC; 16:70808233, LOC100130894||3' Proximal Enhancer:19271, VAC14||Intron 9:26828, PBMC; 16:71843647, PBMC; 16:71887487, ATXN1L||Intron 2:7589, ZNF821||3' Proximal Enhancer:29957|3' Proximal Enhancer:30606, PBMC; 16:727212, JMJD8||3' Proximal Enhancer:7227, RHBDL1||Intron 3:1138, PBMC; 16:73578307, PBMC; 16:75242114, CTRB2||Proximal Promoter:-1042, PBMC; 16:75252973, BCAR1||3' Proximal Enhancer:20007|3' Proximal Enhancer:29251|3' Proximal Enhancer:32553|3' Proximal Enhancer:46873|3' Proximal Enhancer:46932|3' Proximal Enhancer:47734|3' Proximal Enhancer:48978, CTRB1||Proximal Promoter:90, PBMC; 16:75339383, CFDP1||Intron 5:128004, PBMC; 16:75414554, CFDP1||Intron 5:52833, PBMC; 16:76311050, CNTNAP4||Proximal Promoter:-125, PBMC; 16:77247126, SYCE1L||3' Proximal Enhancer:13778, PBMC; 16:77468277, ADAMTS18||Intron 2:734, PBMC; 16:776667, CCDC78||Proximal Promoter:-194, FAM173A||3' Proximal Enhancer:5510, PBMC; 16:78675680, WWOX||Intron 8:542354, PBMC; 16:81254051, PKD1L2||Proximal Promoter:-76, PBMC; 16:81254169, PKD1L2||Proximal Promoter:-194, PBMC; 16:81254209, PKD1L2||Proximal Promoter:-234, PBMC; 16:81477864, CMIP||Proximal Promoter:-910, PBMC; 16:818807, MIR662||Proximal Promoter:-1375, MSLN||Exon 17:7735|Exon 18:8042|Exon 18:8043, PBMC; 16:83967808, PBMC; 16:83986635, OSGIN1||Proximal Promoter:-191, PBMC; 16:84693148, KLHL36||Intron 3:11018, PBMC; 16:84870066, CRISPLD2||Intron 1:16480, PBMC; 16:85062881, KIAA0513||Intron 1:1472, PBMC; 16:85268860, PBMC; 16:85747424, C16orf74||Intron 2:37265, PBMC; 16:85981310, PBMC; 16:85981336, PBMC; 16:86371248, LOC732275||Intron 3:8037, PBMC; 16:86529003, LOC400550||Intron 1:13463, PBMC; 16:867594, PRR25||3' Proximal Enhancer:12152, PBMC; 16:86767299, PBMC; 16:86934677, PBMC; 16:87253997, PBMC; 16:87523700, ZCCHC14||Intron 1:1760, PBMC; 16:87524192, ZCCHC14||Intron 1:1268, PBMC; 16:87769432, KLHDC4||Intron 5:30166, PBMC; 16:87887331, SLC7A5||Intron 1:15769, PBMC; 16:87887443, SLC7A5||Intron 1:15657, PBMC; 16:87887504, 16:87887504, SLC7A5||Intron 1:15596, PBMC; 16:88144476, PBMC; 16:88385387, PBMC; 16:88450241, PBMC; 16:88536950, ZFPM1||Intron 1:16937, PBMC; 16:88803803, PBMC; 16:88803931, PBMC; 16:88804051, PBMC; 16:88902276, GALNS||Intron 6:21098, PBMC; 16:89023488, CBFA2T3||Intron 1:20016, PBMC; 16:89033692, CBFA2T3||Intron 1:9812, PBMC;

16:89033785, 16:89033785, CBFA2T3||Intron 1:9719, PBMC; 16:89033895, CBFA2T3||Intron 1:9609, PBMC; 16:89034292, CBFA2T3||Intron 1:9212, PBMC; 16:89182099, ACSF3||Intron 6:21883, PBMC; 16:89258862, CDH15||Intron 11:20700, SLC22A31||3' Proximal Enhancer:7667, PBMC; 16:89408248, PBMC; 16:89408403, PBMC; 16:89469541, PBMC; 16:89600764, SPG7||Intron 9:25960, PBMC; 16:89662404, CPNE7||Intron 16:20229, PBMC; 16:90070038, AFG3L1P||3' Proximal Enhancer:31051, DBNDD1||3' Proximal Enhancer:6491|3' Proximal Enhancer:15899, PBMC; 16:90074520, AFG3L1P||3' Proximal Enhancer:35533, DBNDD1||Intron 3:2009|Intron 3:11417, PBMC; 16:90144006, PRDM7||Proximal Promoter:-1668, PBMC; 16:922132, LMF1||Intron 8:98852|Intron 7:109186, PBMC; 16:930179, LMF1||Intron 7:90805|Intron 6:101139, PBMC; 17:10220829, MYH13||Intron 27:55493, PBMC; 17:107930, RPH3AL||Intron 6:94703, PBMC; 17:1096626, PBMC; 17:1104665, PBMC; 17:1104805, PBMC; 17:11142733, SHISA6||Proximal Promoter:-2006, PBMC; 17:11143830, SHISA6||Proximal Promoter:-909, PBMC; 17:11144043, SHISA6||Proximal Promoter:-696, PBMC; 17:11144311, SHISA6||Proximal Promoter:-428, PBMC; 17:11144509, SHISA6||Proximal Promoter:-230, PBMC; 17:1202092, TUSC5||Exon 3:19136, PBMC; 17:12550226, FLJ34690||3' Proximal Enhancer:96942, PBMC; 17:12562530, MYOCD||5' Proximal Enhancer:-6676, PBMC; 17:14206774, 17:14206774, HS3ST3B1||Intron 1:2269, MGC12916||Proximal Promoter:-282, PBMC; 17:143233, RPH3AL||Intron 5:59400, PBMC; 17:143285, RPH3AL||Intron 5:59348, PBMC; 17:149582, RPH3AL||Intron 5:53051, PBMC; 17:154410, 17:154410, RPH3AL||Intron 4:Intron 5:48223, PBMC; 17:154420, RPH3AL||Intron 5:48213, PBMC; 17:154499, RPH3AL||Intron 5:48134, PBMC; 17:16488023, PBMC; 17:16570473, PBMC; 17:16593517, CCDC144A||Proximal Promoter:-121, PBMC; 17:16593582, CCDC144A||Proximal Promoter:-56, PBMC; 17:16593589, CCDC144A||Proximal Promoter:-49, PBMC; 17:16593885, CCDC144A||Proximal Promoter:247, PBMC; 17:1686671, SERPINF1||3' Proximal Enhancer:21413, SMYD4||Exon 9:46504, PBMC; 17:183931, LOC100506388||3' Proximal Enhancer:2936, RPH3AL||Intron 1:18702, PBMC; 17:184018, LOC100506388||3' Proximal Enhancer:3023, RPH3AL||Intron 1:18615, PBMC; 17:184106, LOC100506388||3' Proximal Enhancer:3111, RPH3AL||Intron 1:18527, PBMC; 17:184131, LOC100506388||3' Proximal Enhancer:3136, RPH3AL||Intron 1:18502, PBMC; 17:185102, LOC100506388||3' Proximal Enhancer:4107, RPH3AL||Intron 1:17531, PBMC; 17:185152, LOC100506388||3' Proximal Enhancer:4157, RPH3AL||Intron 1:17481, PBMC; 17:18907305, FAM83G||Exon 2:755, SLC5A10||Intron 9:51828, PBMC; 17:1933153, DPH1||Proximal Promoter:-277, RTN4RL1||Distal Promoter:-4975, PBMC; 17:19483367, PBMC; 17:19483394, PBMC; 17:19620263, SLC47A2||Proximal Promoter:-220, PBMC; 17:19770908, ULK2||Proximal Promoter:331, PBMC; 17:19880241, AKAP10||Intron 1:888, PBMC; 17:212481, PBMC; 17:21416258, PBMC; 17:21416281, PBMC; 17:21477761, PBMC; 17:21743878, PBMC; 17:21934487, PBMC; 17:22193895, PBMC; 17:259755, C17orf97||Proximal Promoter:-362, PBMC; 17:2627661, PBMC; 17:263096, C17orf97||Exon 2:2979, PBMC; 17:263193, 17:263193, C17orf97||Exon 2:3076, PBMC; 17:2659081, MIR1253||5' Proximal Enhancer:-7605, PBMC; 17:26685074, MIR4723||Distal Promoter:-2601, POLDIP2||Proximal Promoter:-471, PBMC; 17:26697451, MIR4723||3' Proximal Enhancer:9776, SARM1||Proximal Promoter:-1535, PBMC; 17:26712092, SARM1||Exon 5:13106, SLC46A1||3' Proximal Enhancer:21138, PBMC; 17:2699021, RAP1GAP2||Proximal Promoter:-710, PBMC; 17:2702204, RAP1GAP2||Intron 1:2473, PBMC; 17:27052676, NEK8||Distal Promoter:-3155, RAB34||5' Proximal Enhancer:-7768|5' Proximal Enhancer:-7425|5' Proximal Enhancer:-7390, PBMC; 17:27338116, SEZ6||5' Proximal Enhancer:-5035, PBMC; 17:27369780, PIPOX||Proximal Promoter:-137, PBMC; 17:2907678, 17:2907678, RAP1GAP2||Intron 13:Intron 14:207947, PBMC; 17:2917358, RAP1GAP2||Intron 17:217627, PBMC; 17:29297414, DPRXP4||Distal Promoter:-4938, RNF135||Proximal Promoter:-541, PBMC; 17:29297458, DPRXP4||Distal Promoter:-4894, RNF135||Proximal Promoter:-497, PBMC; 17:29302235, DPRXP4||Proximal Promoter:-117, RNF135||Intron 1:4280, PBMC; 17:30770932, PSMD11||Proximal Promoter:-569, PBMC; 17:31605952, ACCN1||Intron 1:14054|Intron 1:877873, PBMC; 17:32483640, PBMC; 17:32751554, PBMC; 17:33568598, SLFN5||Proximal Promoter:-1487, PBMC; 17:33568791, SLFN5||Proximal Promoter:-1294, PBMC; 17:33672921, SLFN11||3' Proximal Enhancer:27799, PBMC; 17:33734664, SLFN12||3' Proximal Enhancer:24879, PBMC; 17:33815432, SLFN12L||Proximal Promoter:-674, PBMC; 17:33866073, SLFN14||3' Proximal Enhancer:19037, PBMC; 17:34067305, 17:34067305, GAS2L2||3' Proximal Enhancer:12592, RASL10B||Intron 2:8627, PBMC; 17:34539744, CCL4L1|CCL4L2||Intron 2:1277, PBMC; 17:35161825, PBMC; 17:3658505, PBMC; 17:36632523, ARHGAP23||Intron 11:47804, PBMC; 17:36665844, ARHGAP23||Intron 23:81125, PBMC; 17:36666642, ARHGAP23||Exon 24:81923, PBMC; 17:36885965, CISD3||Proximal Promoter:-544, MIR4726||3' Proximal Enhancer:10022, PBMC; 17:37123669, FBXO47||Proximal Promoter:-14, PBMC; 17:37123767, FBXO47||Proximal Promoter:-112, PBMC; 17:37123843, FBXO47||Proximal Promoter:-188, PBMC; 17:37123909, FBXO47||Proximal Promoter:-254, PBMC; 17:37761692, NEUROD2||Exon 2:2483, PBMC;

17:3790402, CAMKK1||Intron 1:3635|Intron 1:5935, P2RX1||3' Proximal Enhancer:29558, PBMC; 17:38183559, CSF3||3' Proximal Enhancer:11946, MED24||Intron 16:27330, PBMC; 17:39165697, KRTAP3-1||Proximal Promoter:-331, KRTAP3-2||5' Proximal Enhancer:-9559, PBMC; 17:39183560, KRTAP1-3||3' Proximal Enhancer:7547, KRTAP1-5||Proximal Promoter:-106, PBMC; 17:39240789, KRTAP4-7||Proximal Promoter:331, PBMC; 17:39279735, KRTAP4-11||5' Proximal Enhancer:-5129, KRTAP4-12||Exon 1:684, PBMC; 17:39684124, KRT15||5' Proximal Enhancer:-8854, KRT19||Exon 1:517, PBMC; 17:40259724, DHX58||Exon 8:5027, KAT2A||3' Proximal Enhancer:13658, PBMC; 17:40259828, DHX58||Intron 7:4923, KAT2A||3' Proximal Enhancer:13554, PBMC; 17:40260053, DHX58||Exon 7:4698, KAT2A||3' Proximal Enhancer:13329, PBMC; 17:40467382, STAT3||Exon 24:73023|Exon 24:73131, STAT5A||3' Proximal Enhancer:27818, PBMC; 17:40575289, PTRF||Proximal Promoter:49, PBMC; 17:4079306, ANKFY1||Intron 19:87968, PBMC; 17:41620911, ETV4||Intron 4:2394|Intron 4:2851, PBMC; 17:41797729, PBMC; 17:41843967, DUSP3||Exon 3:12401, SOST||5' Proximal Enhancer:-7811, PBMC; 17:42061560, PYY||Intron 1:20277, PBMC; 17:43298345, FMNL1||Proximal Promoter:-946, PBMC; 17:43355089, LOC100133991||3' Proximal Enhancer:15532, MAP3K14||Intron 6:39325, PBMC; 17:43663579, PBMC; 17:44657154, ARL17A||Proximal Promoter:-66, PBMC; 17:44847427, WNT3||Intron 2:48655, PBMC; 17:4502244, SMTNL2||Intron 7:14411|Intron 7:14969, PBMC; 17:45501242, C17orf57||Intron 23:99916, PBMC; 17:45785206, TBKBP1||Intron 6:12577, PBMC; 17:46619923, HOXB2||3' Proximal Enhancer:2470, HOXB3||3' Proximal Enhancer:31887, PBMC; 17:46632965, HOXB3||Exon 2:18845, PBMC; 17:46800680, HOXB13||3' Proximal Enhancer:5431, HOXB13-AS1||Proximal Promoter:139, PBMC; 17:4688683, GLTPD2||Distal Promoter:-3570, TM4SF5||3' Proximal Enhancer:13497, PBMC; 17:4689284, GLTPD2||Distal Promoter:-2969, TM4SF5||3' Proximal Enhancer:14098, PBMC; 17:4690632, GLTPD2||Proximal Promoter:-1621, PSMB6||5' Proximal Enhancer:-8824, PBMC; 17:47209827, 17:47209827, B4GALNT2||Proximal Promoter:-303|Proximal Promoter:-501|Proximal Promoter:6, PBMC; 17:47297130, ABI3||Intron 4:9542, GNGT2||5' Proximal Enhancer:-9194, PBMC; 17:47865453, KAT7||Proximal Promoter:-527, PBMC; 17:48712370, ABCC3||Proximal Promoter:153, CACNA1G||3' Proximal Enhancer:73922, PBMC; 17:49021653, PBMC; 17:50237844, 17:50237844, CA10||Proximal Promoter:-1712|Proximal Promoter:-467|Proximal Promoter:-683, PBMC; 17:5342830, C1QBP||Proximal Promoter:-359, DHX33||3' Proximal Enhancer:29550, PBMC; 17:53800372, TMEM100||Proximal Promoter:-147|Intron 2:9110, PBMC; 17:53800484, TMEM100||Proximal Promoter:-259|Intron 2:8998, PBMC; 17:53800554, TMEM100||Proximal Promoter:-329|Intron 2:8928, PBMC; 17:54858770, PBMC; 17:55533142, MSI2||Intron 5:198769|Intron 6:199212, PBMC; 17:57407572, 17:57407572, YPEL2||Proximal Promoter:-1480, PBMC; 17:57407818, YPEL2||Proximal Promoter:-1234, PBMC; 17:59476505, BCAS3||3' Proximal Enhancer:721334, TBX2||Proximal Promoter:-751, PBMC; 17:59529486, TBX4||Distal Promoter:-4320, PBMC; 17:59529618, TBX4||Distal Promoter:-4188, PBMC; 17:5974064, WSCD1||Proximal Promoter:131, PBMC; 17:62341028, TEX2||Proximal Promoter:-375, PBMC; 17:63549924, AXIN2||Intron 2:7816, PBMC; 17:63553581, AXIN2||Intron 2:4159, PBMC; 17:6541725, KIAA0753||Intron 1:2522, MED31||3' Proximal Enhancer:13229, PBMC; 17:66195134, LOC440461||Proximal Promoter:334, PBMC; 17:6659164, 17:6659164, XAF1||Proximal Promoter:9, PBMC; 17:66597378, FAM20A||Proximal Promoter:-283, PBMC; 17:6679348, FBXO39||Proximal Promoter:-203, XAF1||3' Proximal Enhancer:20193, PBMC; 17:6734940, TEKT1||Proximal Promoter:120, PBMC; 17:6921295, ALOX12||3' Proximal Enhancer:21912, BCL6B||5' Proximal Enhancer:-5073, PBMC; 17:6947323, SLC16A11||Proximal Promoter:-81, SLC16A13||3' Proximal Enhancer:7930, PBMC; 17:6947325, SLC16A11||Proximal Promoter:-83, SLC16A13||3' Proximal Enhancer:7932, PBMC; 17:70108426, SOX9||5' Proximal Enhancer:-8734, PBMC; 17:70114623, 17:70114623, SOX9||Distal Promoter:-2537, PBMC; 17:70147783, PBMC; 17:70215735, PBMC; 17:7037098, PBMC; 17:71188192, COG1||Proximal Promoter:-980, PBMC; 17:7165831, C17orf81||3' Proximal Enhancer:10281|3' Proximal Enhancer:10460, CLDN7||Proximal Promoter:433|Intron 1:681, PBMC; 17:71824272, PBMC; 17:7227564, GPS2||5' Proximal Enhancer:-8906, NEURL4||Exon 11:5074, PBMC; 17:7253720, ACAP1||Intron 20:13873, KCTD11||Proximal Promoter:-1487, PBMC; 17:7254671, ACAP1||Exon 22:14824, KCTD11||Proximal Promoter:-536, PBMC; 17:7254909, ACAP1||3' Proximal Enhancer:15062, KCTD11||Proximal Promoter:-298, PBMC; 17:7255037, ACAP1||3' Proximal Enhancer:15190, KCTD11||Proximal Promoter:-170, PBMC; 17:7255624, ACAP1||3' Proximal Enhancer:15777, KCTD11||Proximal Promoter:417, PBMC; 17:7255736, 17:7255736, ACAP1||3' Proximal Enhancer:15889, KCTD11||Exon 1:529, TMEM95||Distal Promoter:-2760, PBMC; 17:72743191, MIR3615||Proximal Promoter:-1560, RAB37||Exon 9:9836|Exon 9:10233, PBMC; 17:72848535, GRIN2C||Exon 3:7472, PBMC; 17:73032613, ATP5H||3' Proximal Enhancer:10461, PBMC; 17:73033009, ATP5H||3' Proximal Enhancer:10065, PBMC; 17:73033177, ATP5H||3' Proximal Enhancer:9897, PBMC; 17:73083632, SLC16A5||Proximal Promoter:-422, PBMC; 17:73148480, 17:73148480, HN1||Intron

1:2294|Intron 1:2295, PBMC; 17:7350001, CHRNB1||Intron 3:1596, FGF11||3' Proximal Enhancer:7313, PBMC; 17:7350244, CHRNB1||Exon 4:1839, FGF11||3' Proximal Enhancer:7556, PBMC; 17:73583839, MYO15B||Proximal Promoter:-299, PBMC; 17:73583945, MYO15B||Proximal Promoter:-193, PBMC; 17:73584029, MYO15B||Proximal Promoter:-109, PBMC; 17:73630199, C17orf109||Proximal Promoter:-2475|Exon 1:686, MYO15B||3' Proximal Enhancer:46061, PBMC; 17:74071231, EXOC7||3' Proximal Enhancer:28421|3' Proximal Enhancer:28637, GALR2||Proximal Promoter:340, PBMC; 17:74235635, 17:74235635, RNF157||Intron 1:755, PBMC; 17:74270190, FAM100B||3' Proximal Enhancer:8905, QRICH2||Exon 19:33571, PBMC; 17:74488855, RHBDF2||Distal Promoter:-4864|Intron 1:8654, PBMC; 17:74639731, ST6GALNAC1||Proximal Promoter:163, PBMC; 17:74639793, ST6GALNAC1||Proximal Promoter:101, PBMC; 17:74639849, ST6GALNAC1||Proximal Promoter:45, PBMC; 17:74639928, ST6GALNAC1||Proximal Promoter:-34, PBMC; 17:74679597, MXRA7||Intron 4:27459, PBMC; 17:74712429, JMJD6||Exon 7:10452, MXRA7||5' Proximal Enhancer:-5373, PBMC; 17:74878420, MGAT5B||Intron 2:9692|Intron 3:13623, PBMC; 17:75315527, SEPT9||Proximal Promoter:-69|Intron 2:31555|Intron 2:38036, PBMC; 17:75371476, SEPT9||Proximal Promoter:-688|Intron 1:2205|Intron 1:55880|Intron 2:87504|Intron 2:93985, PBMC; 17:75385278, MIR4316||3' Proximal Enhancer:7858, SEPT9||Intron 1:13114|Intron 1:16007|Intron 1:69682|Intron 2:101306|Intron 2:107787, PBMC; 17:75417165, PBMC; 17:75431407, PBMC; 17:75445905, SEPT9||Proximal Promoter:-707, PBMC; 17:75446450, SEPT9||Proximal Promoter:-162, PBMC; 17:75446565, SEPT9||Proximal Promoter:-47, PBMC; 17:75446592, SEPT9||Proximal Promoter:-20, PBMC; 17:75446661, 17:75446661, SEPT9||Proximal Promoter:49, PBMC; 17:75522344, PBMC; 17:75956190, PBMC; 17:76121276, TMC6||Exon 6:3585|Exon 6:7212, TMC8||5' Proximal Enhancer:-5582, PBMC; 17:76121348, TMC6||Intron 5:3513|Intron 5:7140, TMC8||5' Proximal Enhancer:-5510, PBMC; 17:76121564, TMC6||Intron 5:3297|Intron 5:6924, TMC8||5' Proximal Enhancer:-5294, PBMC; 17:76335184, PBMC; 17:76417995, DNAH17||3' Proximal Enhancer:155481, PGS1||Intron 9:43261, PBMC; 17:76774832, CYTH1||Intron 1:3544, PBMC; 17:77302162, RBFOX3||Intron 2:176401, PBMC; 17:7792061, CHD3||Proximal Promoter:-107|Intron 1:3939, PBMC; 17:7792063, CHD3||Proximal Promoter:-105|Intron 1:3941, PBMC; 17:7792134, CHD3||Proximal Promoter:-34|Intron 1:4012, PBMC; 17:7792674, CHD3||Intron 1:506|Intron 1:4552, PBMC; 17:7826413, CNTROB||5' Proximal Enhancer:-9028, KCNAB3||Exon 14:6340, PBMC; 17:78264297, RNF213||Intron 7:29631|Intron 6:29638, PBMC; 17:783036, NXN||Intron 1:99962, PBMC; 17:78431627, NPTX1||3' Proximal Enhancer:18777, PBMC; 17:78623601, RPTOR||Intron 3:104977, PBMC; 17:78747227, 17:78747227, RPTOR||Intron 6:228603, PBMC; 17:78912765, RPTOR||Intron 24:394141, PBMC; 17:79045765, BAIAP2||Intron 3:36819, PBMC; 17:79225974, SLC38A10||Intron 13:43122, PBMC; 17:79316841, PBMC; 17:79366851, BAHCC1||5' Proximal Enhancer:-6688, MIR4740||3' Proximal Enhancer:7727, PBMC; 17:79380493, BAHCC1||Intron 1:6954, MIR4740||5' Proximal Enhancer:-5915, PBMC; 17:79380515, BAHCC1||Intron 1:6976, MIR4740||5' Proximal Enhancer:-5937, PBMC; 17:79381734, 17:79381734, BAHCC1||Intron 1:8195, MIR4740||5' Proximal Enhancer:-7156, PBMC; 17:79455576, PBMC; 17:79462320, PBMC; 17:79882876, MAFG||Proximal Promoter:-1432|Intron 1:2711, MAFG-AS1||Distal Promoter:-2828, PBMC; 17:80085332, CCDC57||Intron 16:85357, PBMC; 17:80196719, CSNK1D||3' Proximal Enhancer:34875, SLC16A3||Exon 5:3070|Exon 5:3945|Exon 5:6612|Exon 5:9833|Exon 5:10438, PBMC; 17:80215375, CSNK1D||Intron 2:16219, PBMC; 17:80285515, 17:80285515, SECTM1||Intron 1:6406, PBMC; 17:80377299, C17orf101||Proximal Promoter:-786, HEXDC||Intron 1:1048, PBMC; 17:80693076, FN3K||Proximal Promoter:-375, FN3KRP||3' Proximal Enhancer:18495, PBMC; 17:80693216, FN3K||Proximal Promoter:-235, FN3KRP||3' Proximal Enhancer:18635, PBMC; 17:80693292, FN3K||Proximal Promoter:-159, FN3KRP||3' Proximal Enhancer:18711, PBMC; 17:80849463, PBMC; 17:80860250, PBMC; 17:80921188, B3GNTL1||Intron 7:88498, PBMC; 17:81008971, B3GNTL1||Intron 1:715, PBMC; 17:81014413, 17:81014413, B3GNTL1||Distal Promoter:-4727, PBMC; 17:81020224, PBMC; 17:81042023, METRNL||Intron 1:4457, PBMC; 17:8124867, CTC1||3' Proximal Enhancer:26546, LINC00324||Intron 2:2494, PBMC; 17:8702816, MFSD6L||Proximal Promoter:-149, PIK3R6||3' Proximal Enhancer:68178, PBMC; 17:9550296, USP43||Intron 1:1347, WDR16||3' Proximal Enhancer:70353, PBMC; 17:973713, PBMC; 17:9929698, GAS7||Proximal Promoter:-75|Intron 1:10366|Intron 1:172170, PBMC; 18:10456115, APCDD1||Intron 1:1491, PBMC; 18:11147385, PIEZO2||Intron 1:1376, PBMC; 18:11147785, PIEZO2||Intron 1:976, PBMC; 18:11149470, PIEZO2||Proximal Promoter:-709, PBMC; 18:11947936, PBMC; 18:12254469, CIDEA||Proximal Promoter:110|Proximal Promoter:152, PBMC; 18:12254473, CIDEA||Proximal Promoter:114|Proximal Promoter:156, PBMC; 18:12254551, CIDEA||Proximal Promoter:192|Proximal Promoter:234, PBMC; 18:12254976, CIDEA||Intron 1:617|Intron 1:659, PBMC; 18:12306837, TUBB6||Proximal Promoter:-1419, PBMC; 18:13611400, C18orf1||5' Proximal Enhancer:-9466|Proximal Promoter:-264, MIR4526||Proximal Promoter:288, PBMC; 18:13611439, C18orf1||5' Proximal Enhancer:-

9427|Proximal Promoter:-225, MIR4526||Proximal Promoter:327, PBMC; 18:13611481, C18orf1||5' Proximal Enhancer:-9385|Proximal Promoter:-183, MIR4526||Proximal Promoter:369, PBMC; 18:14179678, ANKRD20A5P||Intron 1:583, PBMC; 18:19757016, GATA6||Exon 3:7601, PBMC; 18:20714332, CABLES1||Proximal Promoter:-1394|Proximal Promoter:-195, PBMC; 18:21596915, TTC39C||Intron 1:2532|Intron 1:24179, PBMC; 18:23083692, PBMC; 18:24234966, PBMC; 18:28621985, DSC3||Intron 1:796, PBMC; 18:29304111, PBMC; 18:33234532, GALNT1||Proximal Promoter:0, PBMC; 18:34917603, CELF4||Intron 2:228397, PBMC; 18:35104681, CELF4||Intron 1:41319, PBMC; 18:37379468, PBMC; 18:44338147, ST8SIA5||Proximal Promoter:-1108, PBMC; 18:47016218, C18orf32||Distal Promoter:-2574, MIR1539||3' Proximal Enhancer:2476, PBMC; 18:49868477, DCC||Intron 1:1936, PBMC; 18:5543801, EPB41L3||Proximal Promoter:185, PBMC; 18:5630072, PBMC; 18:56940333, RAX||Proximal Promoter:292, PBMC; 18:56940418, RAX||Proximal Promoter:207, PBMC; 18:60192893, ZCCHC2||Intron 1:2236, PBMC; 18:67624393, CD226||Proximal Promoter:-161, PBMC; 18:70209432, CBLN2||Exon 3:2291, PBMC; 18:70534534, NETO1||Proximal Promoter:-1600|Proximal Promoter:276, PBMC; 18:72263688, LOC400657||Exon 1:1383, PBMC; 18:72916311, TSHZ1||5' Proximal Enhancer:-6419, ZADH2||Intron 1:4970, PBMC; 18:72916393, TSHZ1||5' Proximal Enhancer:-6337, ZADH2||Intron 1:4888, PBMC; 18:72916776, 18:72916776, TSHZ1||5' Proximal Enhancer:-5954, ZADH2||Intron 1:4505, PBMC; 18:72917101, TSHZ1||5' Proximal Enhancer:-5629, ZADH2||Intron 1:4180, PBMC; 18:72917163, TSHZ1||5' Proximal Enhancer:-5567, ZADH2||Intron 1:4118, PBMC; 18:73167422, PBMC; 18:74208293, ZNF516||Proximal Promoter:-1147, PBMC; 18:74496335, PBMC; 18:74845706, MBP||Proximal Promoter:-932, PBMC; 18:74960996, GALR1||Proximal Promoter:-1011, PBMC; 18:74961000, GALR1||Proximal Promoter:-1007, PBMC; 18:74961196, GALR1||Proximal Promoter:-811, PBMC; 18:74961809, GALR1||Proximal Promoter:-198, PBMC; 18:74962133, GALR1||Proximal Promoter:126, PBMC; 18:74962672, GALR1||Exon 1:665, PBMC; 18:76740262, SALL3||Proximal Promoter:-12, PBMC; 18:76740284, SALL3||Proximal Promoter:10, PBMC; 18:77905298, ADNP2||3' Proximal Enhancer:38384, LOC100130522||Proximal Promoter:-508, PBMC; 18:77905747, ADNP2||3' Proximal Enhancer:38833, LOC100130522||Proximal Promoter:-59, PBMC; 18:909154, ADCYAP1||Intron 3:3858|Intron 4:4211, PBMC; 19:10024282, OLFM2||Intron 1:22788, PBMC; 19:10045441, OLFM2||Intron 1:1629, PBMC; 19:10206746, ANGPTL6||Exon 2:6679, C19orf66||3' Proximal Enhancer:9941, PBMC; 19:10715612, SLC44A2||Intron 1:2492, PBMC; 19:11517079, RGL3||Intron 7:12939, PBMC; 19:11517152, RGL3||Exon 7:12866, PBMC; 19:11847798, ZNF823||Intron 1:1962, PBMC; 19:1192342, PBMC; 19:12251917, ZNF20||Proximal Promoter:-695, ZNF625||3' Proximal Enhancer:15629, PBMC; 19:12547760, ZNF443||Intron 1:4166, PBMC; 19:12605925, PBMC; 19:1275167, C19orf24||Proximal Promoter:-352, CIRBP||3' Proximal Enhancer:5901, PBMC; 19:12832212, C19orf43||3' Proximal Enhancer:13317, PBMC; 19:12868839, ASNA1||3' Proximal Enhancer:20534, BEST2||Exon 9:5433, PBMC; 19:12941409, MAST1||5' Proximal Enhancer:-7849, RTBDN||Proximal Promoter:-202|Intron 2:4821, PBMC; 19:12991665, DNASE2||Exon 3:670, KLF1||3' Proximal Enhancer:6352, PBMC; 19:13121571, NFIX||Intron 1:14988, PBMC; 19:1316091, PBMC; 19:13211225, LYL1||Intron 3:2749, NFIX||3' Proximal Enhancer:104642, PBMC; 19:13211261, LYL1||Intron 3:2713, NFIX||3' Proximal Enhancer:104678, PBMC; 19:13213428, LYL1||Exon 1:546, NFIX||3' Proximal Enhancer:106845, PBMC; 19:13276344, PBMC; 19:13348050, CACNA1A||Intron 31:269224, PBMC; 19:13875014, CCDC130||3' Proximal Enhancer:16262, MRI1||Proximal Promoter:-322, PBMC; 19:13875111, CCDC130||3' Proximal Enhancer:16359, MRI1||Proximal Promoter:-225, PBMC; 19:14260651, LOC100507373||Intron 1:12688, LPHN1||Exon 24:56346, PBMC; 19:14586979, GIPC1||3' Proximal Enhancer:19965, PKN1||3' Proximal Enhancer:35894|3' Proximal Enhancer:42814, PBMC; 19:14591148, GIPC1||Exon 6:15796, PKN1||3' Proximal Enhancer:40063|3' Proximal Enhancer:46983, PBMC; 19:14673053, NDUFB7||3' Proximal Enhancer:9836, TECR||Intron 1:32675, PBMC; 19:1467925, APC2||Exon 15:17778, C19orf25||3' Proximal Enhancer:11303, PBMC; 19:15083795, SLC1A6||Proximal Promoter:-65, PBMC; 19:15121385, CCDC105||Proximal Promoter:-153, PBMC; 19:15133948, CCDC105||Exon 7:12410, PBMC; 19:15982569, CYP4F2||3' Proximal Enhancer:26315, PBMC; 19:16989699, SIN3B||Exon 20:49491, PBMC; 19:1737123, PBMC; 19:17393744, ABHD8||3' Proximal Enhancer:20538, ANKLE1||Exon 4:1291, PBMC; 19:17440072, ANO8||Intron 12:5566, DDA1||3' Proximal Enhancer:19736, PBMC; 19:17599784, SLC27A1||Intron 5:18485, PBMC; 19:17600122, SLC27A1||Intron 6:18823, PBMC; 19:17650009, FAM129C||Exon 7:15900, PBMC; 19:17799037, UNC13A||Proximal Promoter:-29, PBMC; 19:17861017, FCHO1||Proximal Promoter:-1268|Intron 1:2491, PBMC; 19:17984643, SLC5A5||Intron 1:1862, PBMC; 19:18385409, JUND||3' Proximal Enhancer:7023, KIAA1683||Proximal Promoter:-90, PBMC; 19:18496921, GDF15||Proximal Promoter:-46, LRRC25||3' Proximal Enhancer:11494, PBMC; 19:18497064, GDF15||Proximal Promoter:97, LRRC25||3' Proximal Enhancer:11351, PBMC; 19:1852127, KLF16||3' Proximal Enhancer:11437, PBMC; 19:1852165, KLF16||3' Proximal Enhancer:11399,

PBMC; 19:18696054, C19orf60||Distal Promoter:-3440, CRLF1||3' Proximal Enhancer:21606, PBMC; 19:18700553, C19orf60||Intron 3:1059, CRLF1||3' Proximal Enhancer:17107, PBMC; 19:18981378, CERS1||3' Proximal Enhancer:25575, CERS1|GDF1||Exon 7:25575, PBMC; 19:19245687, TMEM161A||Exon 2:3580, PBMC; 19:19371927, HAPLN4||Exon 3:1669, NCAN||3' Proximal Enhancer:49146, PBMC; 19:1967198, PBMC; 19:2094327, AP3D1||3' Proximal Enhancer:57229, IZUMO4||Distal Promoter:-2540, PBMC; 19:21767566, PBMC; 19:21863715, PBMC; 19:2200504, DOT1L||Intron 8:36357, PBMC; 19:22235850, ZNF257||Intron 1:585, PBMC; 19:22444593, PBMC; 19:2250561, AMH||Intron 2:1449, JSRP1||3' Proximal Enhancer:5861, PBMC; 19:2250901, AMH||Exon 4:1789, JSRP1||3' Proximal Enhancer:5521, PBMC; 19:2250956, AMH||Exon 4:1844, JSRP1||3' Proximal Enhancer:5466, PBMC; 19:2251061, AMH||Intron 4:1949, JSRP1||3' Proximal Enhancer:5361, PBMC; 19:2251067, AMH||Intron 4:1955, JSRP1||3' Proximal Enhancer:5355, PBMC; 19:22805801, PBMC; 19:22805803, PBMC; 19:22816896, ZNF492||Proximal Promoter:-229, PBMC; 19:22817039, ZNF492||Proximal Promoter:-86, PBMC; 19:23945472, RPSAP58||Proximal Promoter:-343, ZNF681||Distal Promoter:-3779, PBMC; 19:2583601, GNG7||Intron 2:119145, PBMC; 19:2860191, ZNF555||Exon 4:18759, ZNF556||5' Proximal Enhancer:-7141, PBMC; 19:29217858, PBMC; 19:29218101, PBMC; 19:29218262, PBMC; 19:29218302, PBMC; 19:29218732, PBMC; 19:29218774, PBMC; 19:29281888, PBMC; 19:30716182, PBMC; 19:30866194, ZNF536||Intron 1:2867, PBMC; 19:3285973, CELF5||Exon 10:60491|Exon 10:61272|Exon 10:61273, PBMC; 19:3290345, CELF5||Exon 11:64863|Exon 11:65644|Exon 11:65645, PBMC; 19:33165484, ANKRD27||Intron 1:618, RGS9BP||Proximal Promoter:-828, PBMC; 19:33167718, ANKRD27||Proximal Promoter:-1616, RGS9BP||Exon 1:1406, PBMC; 19:3369759, NFIC||Intron 1:3195|Intron 1:10199, PBMC; 19:33717929, SLC7A10||Proximal Promoter:-1173, PBMC; 19:33719749, SLC7A10||Distal Promoter:-2993, PBMC; 19:34112306, CHST8||Proximal Promoter:-566|Proximal Promoter:-554, PBMC; 19:34972145, WTIP||Proximal Promoter:-734, PBMC; 19:34973191, WTIP||Proximal Promoter:312, PBMC; 19:35455389, ZNF792||Proximal Promoter:-436, PBMC; 19:35488496, GRAMD1A||Distal Promoter:-2749, PBMC; 19:36048943, ATP4A||Intron 10:5617, PBMC; 19:36100748, 19:36100748, HAUS5||Distal Promoter:-2897, PBMC; 19:36265700, ARHGAP33||Proximal Promoter:-716, C19orf55||3' Proximal Enhancer:16657, PBMC; 19:3671118, PIP5K1C||Intron 1:29359, PBMC; 19:3672087, 19:3672087, PIP5K1C||Intron 1:28390, PBMC; 19:36822549, LOC100506930||Proximal Promoter:71, ZFP14||3' Proximal Enhancer:47556, PBMC; 19:3688477, PIP5K1C||Intron 1:12000, PBMC; 19:37825446, HKR1||Proximal Promoter:-133, PBMC; 19:37825679, HKR1||Proximal Promoter:100, PBMC; 19:38747355, PPP1R14A||Proximal Promoter:-124, SPINT2||5' Proximal Enhancer:-7742, PBMC; 19:38747378, PPP1R14A||Proximal Promoter:-147, SPINT2||5' Proximal Enhancer:-7719, PBMC; 19:38943724, RYR1||Intron 13:19385, PBMC; 19:39360961, RINL||Intron 8:7958, SIRT2||3' Proximal Enhancer:23834|3' Proximal Enhancer:29502|3' Proximal Enhancer:29541, PBMC; 19:39523436, FBXO27||Proximal Promoter:-238, PBMC; 19:39523840, FBXO27||Proximal Promoter:-642, PBMC; 19:40195028, LGALS14||Proximal Promoter:83, PBMC; 19:4059525, ZBTB7A||Intron 1:7291, PBMC; 19:40729274, AKT2||3' Proximal Enhancer:62028, CNTD2||Intron 4:3323, PBMC; 19:40788926, AKT2||Intron 1:2376, MIR641||Proximal Promoter:-378, PBMC; 19:41025658, SPTBN4||Exon 16:52533, PBMC; 19:41025863, SPTBN4||Exon 16:52738, PBMC; 19:41106164, LTBP4||Proximal Promoter:-1112|Intron 4:3024|Intron 4:7093, SHKBP1||3' Proximal Enhancer:23408, PBMC; 19:41307778, EGLN2||Intron 2:2445|Intron 2:2731, MIA-RAB4B||3' Proximal Enhancer:26337, PBMC; 19:4153671, CREB3L3||Proximal Promoter:43, PBMC; 19:41595977, CYP2A13||Exon 3:1610, PBMC; 19:41698987, CYP2S1||Proximal Promoter:-127, PBMC; 19:41699282, CYP2S1||Proximal Promoter:168, PBMC; 19:43032683, CEACAM1||Proximal Promoter:-22, PBMC; 19:44306947, LYPD5||Proximal Promoter:-334|Intron 1:17861, PBMC; 19:45281140, CBLC||Proximal Promoter:15, PBMC; 19:45281236, CBLC||Proximal Promoter:111, PBMC; 19:45281284, CBLC||Proximal Promoter:159, PBMC; 19:46274453, DMPK||Intron 12:9408|Intron 13:11362, SIX5||Proximal Promoter:-1956, PBMC; 19:46296257, DMWD||Proximal Promoter:-197, RSPH6A||3' Proximal Enhancer:22348, PBMC; 19:46526483, CCDC61||3' Proximal Enhancer:28145, MIR769||3' Proximal Enhancer:4294, PBMC; 19:46526489, CCDC61||3' Proximal Enhancer:28151, MIR769||3' Proximal Enhancer:4300, PBMC; 19:46712075, DKFZp434J0226||Proximal Promoter:-1423, PBMC; 19:46713446, DKFZp434J0226||Proximal Promoter:-52, PBMC; 19:46713473, DKFZp434J0226||Proximal Promoter:-25, PBMC; 19:46995757, LOC100506012||Intron 3:108700, PNMAL2||Exon 1:3412, PBMC; 19:46998383, LOC100506012||Intron 3:106074, PNMAL2||Exon 1:786, PBMC; 19:47017050, PBMC; 19:47507399, ARHGAP35||Exon 6:85467, PBMC; 19:47507409, ARHGAP35||Exon 6:85477, PBMC; 19:47507691, ARHGAP35||Exon 6:85759, PBMC; 19:4785480, FEM1A||5' Proximal Enhancer:-6247, PBMC; 19:48232106, 19:48232106, EHD2||Intron 4:15506, PBMC; 19:48282728, SEPW1||Intron 1:887, PBMC; 19:48324309, CRX||Proximal Promoter:-789, PBMC; 19:48497828, BSPH1||Proximal Promoter:-2401,

ELSPBP1||Proximal Promoter:-79, PBMC; 19:48994043, 19:48994043, CYTH2||3' Proximal Enhancer:21579, LMTK3||Intron 15:22403, PBMC; 19:49503178, GYS1||5' Proximal Enhancer:-6568, RUVBL2||Intron 2:6023, PBMC; 19:49573012, KCNA7||Exon 2:3186, NTF4||5' Proximal Enhancer:-5888, PBMC; 19:496239, MADCAM1||Proximal Promoter:-250, PBMC; 19:49689673, TRPM4||Intron 12:28658, PBMC; 19:49891494, CCDC155||Proximal Promoter:20, PBMC; 19:49936880, LOC100507003||3' Proximal Enhancer:7193, SLC17A7||Intron 7:7928, PBMC; 19:49944506, PIH1D1||3' Proximal Enhancer:10609, SLC17A7||Proximal Promoter:302, PBMC; 19:50062005, NOSIP||Intron 5:21798, PBMC; 19:50064054, NOSIP||Intron 2:19749, PBMC; 19:50084626, NOSIP||Proximal Promoter:-823, PRRG2||Proximal Promoter:40, PBMC; 19:50117794, 19:50117794, PRR12||Exon 7:22883, PBMC; 19:50666238, IZUMO2||Proximal Promoter:300, PBMC; 19:50666552, IZUMO2||Proximal Promoter:-14, PBMC; 19:50762277, MYH14||Intron 18:55393, PBMC; 19:50848024, NAPSB||Proximal Promoter:-19, PBMC; 19:51190179, SHANK1||Intron 18:30016, PBMC; 19:51456308, KLK5||Proximal Promoter:36, KLK6||3' Proximal Enhancer:15739|3' Proximal Enhancer:16621, PBMC; 19:51487360, KLK7||Proximal Promoter:-289|Proximal Promoter:-40, PBMC; 19:51686316, SIGLECP3||3' Proximal Enhancer:15732, PBMC; 19:51871891, CLDND2||Proximal Promoter:366, ETFB||Proximal Promoter:-2219, PBMC; 19:51875946, CLDND2||Distal Promoter:-3689, ETFB||5' Proximal Enhancer:-6274, PBMC; 19:51876470, CLDND2||Distal Promoter:-4213, ETFB||5' Proximal Enhancer:-6798, PBMC; 19:526333, CDC34||5' Proximal Enhancer:-5399, TPGS1||3' Proximal Enhancer:18837, PBMC; 19:53142146, ZNF83||Proximal Promoter:-502|Intron 3:51740, PBMC; 19:53142304, ZNF83||Proximal Promoter:-660|Intron 3:51582, PBMC; 19:53541186, ERVV-2||5' Proximal Enhancer:-6804, PBMC; 19:53541287, ERVV-2||5' Proximal Enhancer:-6703, PBMC; 19:53635532, ZNF347||3' Proximal Enhancer:26781|3' Proximal Enhancer:26790, ZNF415||Intron 1:639|Intron 1:641, PBMC; 19:53758055, VN1R2||Distal Promoter:-3489, ZNF677||Proximal Promoter:56, PBMC; 19:53828996, ZNF845||5' Proximal Enhancer:-8005, PBMC; 19:54495995, CACNG6||Proximal Promoter:454, PBMC; 19:54496299, CACNG6||Exon 1:758, PBMC; 19:54496353, CACNG6||Exon 1:812, PBMC; 19:54567123, TARM1||3' Proximal Enhancer:17511, VSTM1||Proximal Promoter:84, PBMC; 19:54567279, TARM1||3' Proximal Enhancer:17355, VSTM1||Proximal Promoter:-72, PBMC; 19:54728037, LILRB3||Proximal Promoter:-1078, PBMC; 19:54927291, TTYH1||Intron 1:687, PBMC; 19:54931632, TTYH1||Intron 2:5028, PBMC; 19:55084269, LILRA2||Proximal Promoter:-987, PBMC; 19:55141979, LILRB1||Proximal Promoter:12|Proximal Promoter:72|Exon 2:13351, PBMC; 19:55477759, NLRP2||Proximal Promoter:49|Intron 1:1108, PBMC; 19:55587193, EPS8L1||Distal Promoter:-4566|Proximal Promoter:-27, RDH13||5' Proximal Enhancer:-6279, PBMC; 19:55594963, EPS8L1||Intron 8:3204|Intron 13:7743, PPP1R12C||3' Proximal Enhancer:33964, PBMC; 19:5587239, SAFB2||Exon 21:35699, PBMC; 19:55960947, ISOC2||3' Proximal Enhancer:12102, SHISA7||5' Proximal Enhancer:-6717, PBMC; 19:56061334, SGK110||Distal Promoter:-4425, PBMC; 19:56988935, LOC100128252||Proximal Promoter:-557|Proximal Promoter:-307, ZNF667||Proximal Promoter:-165, PBMC; 19:57183016, ZNF835||Proximal Promoter:107, PBMC; 19:57183118, ZNF835||Proximal Promoter:5, PBMC; 19:57618436, PBMC; 19:5799340, DUS3L||5' Proximal Enhancer:-8091, PBMC; 19:58038573, ZNF549||Proximal Promoter:-119, PBMC; 19:58220818, ZNF154||Proximal Promoter:-239, PBMC; 19:58609618, ZSCAN18||Proximal Promoter:112|Intron 1:20175, PBMC; 19:58609960, ZSCAN18||Proximal Promoter:-230|Intron 1:19833, PBMC; 19:58629828, ZNF329||3' Proximal Enhancer:32320, ZSCAN18||Proximal Promoter:-35, PBMC; 19:58629901, ZNF329||3' Proximal Enhancer:32247, ZSCAN18||Proximal Promoter:-108, PBMC; 19:5892460, NDUFA11||Exon 4:11564, PBMC; 19:6504797, TUBB4A||Proximal Promoter:-2467, PBMC; 19:6588898, CD70||Intron 2:2265, PBMC; 19:7294093, INSR||Proximal Promoter:-82, PBMC; 19:7927974, EVI5L||Intron 17:16589|Intron 17:32814, FLJ22184||3' Proximal Enhancer:11352, PBMC; 19:8275083, CERS4||Intron 1:867, PBMC; 19:836898, AZU1||3' Proximal Enhancer:9068, PRTN3||Distal Promoter:-4086, PBMC; 19:8398677, KANK3||Exon 6:9469, PBMC; 19:844589, ELANE||5' Proximal Enhancer:-7701, PRTN3||Intron 3:3605, PBMC; 19:861071, CFD||Intron 3:1407, ELANE||3' Proximal Enhancer:8781, PBMC; 19:8808663, ACTL9||Exon 1:509, PBMC; 19:9238958, OR7G3||Proximal Promoter:-1332, PBMC; 19:929543, ARID3A||Exon 2:3507, KISS1R||3' Proximal Enhancer:12202, PBMC; 19:937444, ARID3A||Intron 3:11408, PBMC; 19:940967, ARID3A||Intron 3:14931, PBMC; 19:941126, 19:941126, ARID3A||Intron 3:15090, PBMC; 19:9785511, ZNF562||Proximal Promoter:265, PBMC; 19:9785727, 19:9785727, ZNF562||Proximal Promoter:49, PBMC; 19:9785779, ZNF562||Proximal Promoter:-3, PBMC; 19:9786077, ZNF562||Proximal Promoter:-301, PBMC; 19:9900982, PBMC; 1:100111713, PALMD||Proximal Promoter:283, PBMC; 1:100111727, PALMD||Proximal Promoter:297, PBMC; 1:100111849, PALMD||Proximal Promoter:419, PBMC; 1:102308808, OLFM3||Intron 1:153982, PBMC; 1:1052600, C1orf159||Proximal Promoter:-864, PBMC; 1:10737562, CASZ1||Intron 4:119145, PBMC; 1:108510531, VAV3||Distal Promoter:-2986, PBMC; 1:109204304, HENMT1||Proximal

Promoter:-560|Proximal Promoter:-156, PBMC; 1:109204316, HENMT1||Proximal Promoter:-572|Proximal Promoter:-168, PBMC; 1:109204325, HENMT1||Proximal Promoter:-581|Proximal Promoter:-177, PBMC; 1:110009509, SYPL2||Proximal Promoter:410, PBMC; 1:110025642, ATXN7L2||Proximal Promoter:-918, SYPL2||3' Proximal Enhancer:16543, PBMC; 1:1101348, MIR200A||Proximal Promoter:-1894, MIR200B||Proximal Promoter:-1135, PBMC; 1:110164547, AMPD2||Distal Promoter:-3501|Intron 1:1272|Intron 1:2089, GNAT2||5' Proximal Enhancer:-8842, PBMC; 1:1108924, MIR200A||3' Proximal Enhancer:5682, MIR200B||3' Proximal Enhancer:6441, PBMC; 1:110946480, HBXIP||Intron 3:4066, PBMC; 1:111740345, DENND2D||Intron 4:2936, PBMC; 1:111764857, CHI3L2||5' Proximal Enhancer:-7475|5' Proximal Enhancer:-5423, PBMC; 1:111813690, RP11-165H20.1||5' Proximal Enhancer:-9455, PBMC; 1:112154295, LOC100129269||Distal Promoter:-3355, RAP1A||5' Proximal Enhancer:-8109, PBMC; 1:113051846, WNT2B||Proximal Promoter:477|Intron 2:41807, PBMC; 1:114430280, AP4B1||3' Proximal Enhancer:17245|3' Proximal Enhancer:17461, BCL2L15||Proximal Promoter:-111, PBMC; 1:114504999, HIPK1||Exon 7:8501|Exon 8:11233|Exon 9:33004, PBMC; 1:115634681, TSPAN2||Distal Promoter:-2560, PBMC; 1:115881259, NGF||Proximal Promoter:-402, PBMC; 1:11709018, FBXO2||Intron 5:5870, FBXO44||5' Proximal Enhancer:-5895|5' Proximal Enhancer:-5413, PBMC; 1:117529478, 1:117529478, PTGFRN||Exon 9:76790, PBMC; 1:117529619, PTGFRN||Exon 9:76931, PBMC; 1:117529772, PTGFRN||Exon 9:77084, PBMC; 1:119530702, 1:119530702, TBX15||Intron 1:1477, PBMC; 1:119531093, TBX15||Intron 1:1086, PBMC; 1:121448638, PBMC; 1:12218613, TNFRSF1B||5' Proximal Enhancer:-8446, PBMC; 1:12538678, VPS13D||Intron 67:248566, PBMC; 1:1290708, DVL1||5' Proximal Enhancer:-6216, MXRA8||Exon 4:3207, PBMC; 1:1365911, ANKRD65||5' Proximal Enhancer:-9087, TMEM88B||3' Proximal Enhancer:4404, PBMC; 1:1366274, ANKRD65||5' Proximal Enhancer:-9450, TMEM88B||3' Proximal Enhancer:4767, PBMC; 1:1395945, ATAD3C||Intron 9:10877, PBMC; 1:14052489, 1:14052489, PRDM2||Intron 2:21140|Intron 2:25755, PBMC; 1:14140248, PBMC; 1:1441055, ATAD3A||5' Proximal Enhancer:-6854|5' Proximal Enhancer:-6467, ATAD3B||3' Proximal Enhancer:33892, PBMC; 1:144595718, PBMC; 1:14462810, PBMC; 1:144930964, PDE4DIP||Exon 1:1068|Intron 5:64058|Intron 5:64069|Intron 8:109028, PBMC; 1:145382477, PBMC; 1:145471701, ANKRD34A||Exon 2:1194, LIX1L||5' Proximal Enhancer:-5383, PBMC; 1:145471727, ANKRD34A||Exon 2:1220, LIX1L||5' Proximal Enhancer:-5357, PBMC; 1:146515238, LOC728989||Proximal Promoter:-639, PBMC; 1:146548032, PBMC; 1:146552973, PBMC; 1:147012684, BCL9||Proximal Promoter:-497, PBMC; 1:147737182, PBMC; 1:147782452, PBMC; 1:147782472, PBMC; 1:149187149, PBMC; 1:149212246, PBMC; 1:149212475, PBMC; 1:150244045, APH1A||Proximal Promoter:-2436, C1orf54||Proximal Promoter:-1137, PBMC; 1:150592475, ENSA||3' Proximal Enhancer:9134|3' Proximal Enhancer:9623, PBMC; 1:150979364, FAM63A||Proximal Promoter:-91|Proximal Promoter:21|Intron 1:1490, PRUNE||Proximal Promoter:-1608, PBMC; 1:151163316, PIP5K1A||5' Proximal Enhancer:-7704, VPS72||Proximal Promoter:-676, PBMC; 1:151170427, PIP5K1A||Proximal Promoter:-593, VPS72||5' Proximal Enhancer:-7787, PBMC; 1:151878061, THEM4||Intron 1:4300, PBMC; 1:152079713, TCHH||Exon 2:6843, PBMC; 1:153234809, LOR||3' Proximal Enhancer:2631, PBMC; 1:153762372, SLC27A3||3' Proximal Enhancer:14605, PBMC; 1:153762434, SLC27A3||3' Proximal Enhancer:14667, PBMC; 1:153941186, CREB3L4||Intron 2:512|Intron 2:872, JTB||3' Proximal Enhancer:9265, PBMC; 1:154300241, AQP10||3' Proximal Enhancer:6650, ATP8B2||Proximal Promoter:-34|Intron 1:2206, PBMC; 1:154359587, PBMC; 1:154377364, IL6R||Proximal Promoter:-304, PBMC; 1:154377379, IL6R||Proximal Promoter:-289, PBMC; 1:154377403, IL6R||Proximal Promoter:-265, PBMC; 1:154379696, IL6R||Intron 1:2028, PBMC; 1:154380179, IL6R||Intron 1:2511, PBMC; 1:154380705, IL6R||Intron 1:3037, PBMC; 1:154392070, IL6R||Intron 1:14402, PBMC; 1:154437693, IL6R||Exon 9:60025, PBMC; 1:154981829, DCST2||3' Proximal Enhancer:24428, ZBTB7B||Intron 1:6628|Intron 2:6724, PBMC; 1:154982621, DCST2||3' Proximal Enhancer:23636, ZBTB7B||Intron 1:7420|Intron 2:7516, PBMC; 1:154988721, DCST2||3' Proximal Enhancer:17536, ZBTB7B||Exon 5:13520|Exon 6:13616, PBMC; 1:156161651, SLC25A44||Proximal Promoter:-2078, PBMC; 1:156163899, SLC25A44||Proximal Promoter:170, PBMC; 1:156198365, PMF1||Intron 2:15587, PMF1|PMF1-BGLAP||Intron 1:15587, PBMC; 1:1562535, CDK11B||3' Proximal Enhancer:93240, MIB2||Exon 10:11291|Exon 11:11741, PBMC; 1:156270260, C1orf85||Distal Promoter:-4811, CCT3||3' Proximal Enhancer:37946, PBMC; 1:156466088, MEF2D||Intron 1:4441, PBMC; 1:156616779, 1:156616779, BCAN||Exon 3:5040, PBMC; 1:156831101, INSRR||Proximal Promoter:-2389, NTRK1||Proximal Promoter:431|Intron 2:45560, PBMC; 1:15709832, 1:15709832, FHAD1||Intron 30:136065, PBMC; 1:15734285, EFHD2||Proximal Promoter:-2105, FHAD1||3' Proximal Enhancer:160518, PBMC; 1:15738732, EFHD2||Intron 1:2342, PBMC; 1:157670825, FCRL3||Proximal Promoter:-178, PBMC; 1:157670869, FCRL3||Proximal Promoter:-222, PBMC; 1:157948875, PBMC; 1:157948893, PBMC; 1:158041312, KIRREL||Intron 1:78250, PBMC; 1:158147729, CD1D||Proximal Promoter:-2007, PBMC; 1:158147849,

CD1D||Proximal Promoter:-1887, PBMC; 1:158323482, CD1E||Proximal Promoter:-3, PBMC; 1:158450237, OR10R2||Exon 1:570, PBMC; 1:158800024, MNDA||Proximal Promoter:-1143, PBMC; 1:159796617, C1orf204||3' Proximal Enhancer:28520, SLAMF8||Proximal Promoter:139, PBMC; 1:159796629, C1orf204||3' Proximal Enhancer:28508, SLAMF8||Proximal Promoter:151, PBMC; 1:159796658, C1orf204||3' Proximal Enhancer:28479, SLAMF8||Proximal Promoter:180, PBMC; 1:159869960, CCDC19||Proximal Promoter:-54, PBMC; 1:160616604, SLAMF1||Proximal Promoter:477, PBMC; 1:160616870, SLAMF1||Proximal Promoter:211, PBMC; 1:160617092, SLAMF1||Proximal Promoter:-11, PBMC; 1:160708987, SLAMF7||Proximal Promoter:-89, PBMC; 1:160708990, SLAMF7||Proximal Promoter:-86, PBMC; 1:160854954, ITLN1||Proximal Promoter:6, PBMC; 1:161410551, PBMC; 1:16154831, FLJ37453||3' Proximal Enhancer:19811, PBMC; 1:16163479, FLJ37453||Intron 1:11163, PBMC; 1:16163555, FLJ37453||Intron 1:11087, PBMC; 1:16163610, FLJ37453||Intron 1:11032, PBMC; 1:16163775, FLJ37453||Intron 1:10867, PBMC; 1:16164109, FLJ37453||Intron 1:10533, PBMC; 1:16164122, FLJ37453||Intron 1:10520, PBMC; 1:163290999, NUF2||Proximal Promoter:-723, RGS5||Intron 1:582, PBMC; 1:16359049, CLCNKA||Intron 18:10564, PBMC; 1:165322606, LMX1A||Intron 2:2872|Intron 2:3346, PBMC; 1:16553549, RSG1||3' Proximal Enhancer:10110, PBMC; 1:16554402, RSG1||3' Proximal Enhancer:9257, PBMC; 1:165798420, UCK2||Intron 1:1689, PBMC; 1:165811984, UCK2||Intron 1:15253, PBMC; 1:166571691, FMO9P||Proximal Promoter:-1461, PBMC; 1:167090757, DUSP27||Intron 4:26671, PBMC; 1:167127353, PBMC; 1:167523769, CREG1||Proximal Promoter:-713, PBMC; 1:16768162, NECAP2||Intron 1:996, SPATA21||Distal Promoter:-4243, PBMC; 1:168356537, PBMC; 1:168356591, PBMC; 1:168356606, PBMC; 1:168356673, PBMC; 1:168544874, XCL1||Proximal Promoter:-836, PBMC; 1:168545835, XCL1||Proximal Promoter:125, PBMC; 1:169187004, 1:169187004, NME7||Intron 10:150182, PBMC; 1:16974255, MST1P2||Intron 6:2187, PBMC; 1:17019133, 1:17019133, ESPNP||Intron 10:27519, PBMC; 1:1714140, GNB1||3' Proximal Enhancer:108386, NADK||Distal Promoter:-4231|Distal Promoter:-3843|Distal Promoter:-2632, PBMC; 1:17215477, PBMC; 1:17215511, PBMC; 1:172635668, FASLG||Exon 4:7484, PBMC; 1:17287501, CROCC||Exon 27:39057, PBMC; 1:17394374, PADI2||Exon 16:51574, PBMC; 1:174844490, RABGAP1L||Proximal Promoter:-165|Intron 1:967|Intron 2:75456, PBMC; 1:174933574, RABGAP1L||Proximal Promoter:-330|3' Proximal Enhancer:88919|3' Proximal Enhancer:90051|Intron 3:164540, PBMC; 1:17698725, PADI4||3' Proximal Enhancer:64036, PADI6||Proximal Promoter:-15, PBMC; 1:179545668, NPHS2||Proximal Promoter:-584, PBMC; 1:179713788, FAM163A||Intron 1:1491, PBMC; 1:179801627, TOR1AIP2||3' Proximal Enhancer:45314, PBMC; 1:180161452, FLJ23867||5' Proximal Enhancer:-5691, QSOX1||Intron 10:37485, PBMC; 1:180923683, KIAA1614||3' Proximal Enhancer:41371, PBMC; 1:181561511, CACNA1E||Intron 6:108826, PBMC; 1:182921851, SHCBP1L||Intron 1:702, PBMC; 1:183957982, GLT25D2||Intron 1:48881, PBMC; 1:184005360, GLT25D2||Intron 1:1503, PBMC; 1:18435619, IGSF21||Intron 1:1380, PBMC; 1:18684587, IGSF21||Intron 4:250348, PBMC; 1:1886501, KIAA1751||Exon 18:48775, PBMC; 1:18959427, PAX7||Intron 1:1928, PBMC; 1:18969652, PAX7||Intron 4:12153, PBMC; 1:19261678, IFFO2||Intron 1:21148, PBMC; 1:192778890, RGS2||Intron 1:722, PBMC; 1:193456140, PBMC; 1:1950616, GABRD||Proximal Promoter:-151, PBMC; 1:196946512, CFHR5||Proximal Promoter:-154, PBMC; 1:19777949, CAPZB||Intron 1:33252|Intron 1:34117, PBMC; 1:197875080, C1orf53||Intron 2:3399, LHX9||5' Proximal Enhancer:-6554, PBMC; 1:200010788, NR5A2||Intron 2:14019, PBMC; 1:201012098, CACNA1S||Intron 40:69596, PBMC; 1:201368946, LAD1||Proximal Promoter:-277, TNNI1||3' Proximal Enhancer:21928, PBMC; 1:201583478, PBMC; 1:201617443, NAV1||Proximal Promoter:-6, PBMC; 1:201618003, NAV1||Exon 1:554, PBMC; 1:201978971, ELF3||Proximal Promoter:-718, RNPEP||3' Proximal Enhancer:27206, PBMC; 1:2023157, PRKCZ||Intron 1:17733|Intron 1:18072|Intron 4:41249, PBMC; 1:2023258, PRKCZ||Intron 1:17834|Intron 1:18173|Intron 4:41350, PBMC; 1:203045044, MYOG||3' Proximal Enhancer:10333, PPFIA4||Intron 16:24734, PBMC; 1:203275927, BTG2||Intron 1:1264, LOC730227||Proximal Promoter:-1474, PBMC; 1:203276595, BTG2||Exon 2:1932, LOC730227||Proximal Promoter:-2142, PBMC; 1:203278044, BTG2||Exon 2:3381, LOC730227||Distal Promoter:-3591, PBMC; 1:203626524, 1:203626524, ATP2B4||Intron 1:30610, PBMC; 1:204556835, PBMC; 1:205181237, DSTYK||Proximal Promoter:-510, PBMC; 1:205254523, PBMC; 1:205591675, ELK4||Intron 2:10325, PBMC; 1:205819088, PM20D1||Proximal Promoter:188, PBMC; 1:205819179, PM20D1||Proximal Promoter:97, PBMC; 1:206945924, IL10||Proximal Promoter:-85, PBMC; 1:207544840, PBMC; 1:207660123, CR1||5' Proximal Enhancer:-9349, CR2||Intron 19:32479, PBMC; 1:207669922, CR1||Proximal Promoter:450, CR2||3' Proximal Enhancer:42278, PBMC; 1:207842833, CR1L||Intron 1:24376, PBMC; 1:207842917, CR1L||Intron 1:24460, PBMC; 1:207843084, CR1L||Intron 1:24627, PBMC; 1:207996319, LOC148696||3' Proximal Enhancer:4596, PBMC; 1:207997166, LOC148696||3' Proximal Enhancer:5443, PBMC; 1:208040253, PBMC; 1:208132787, PBMC; 1:20879547, FAM43B||Exon 1:616, PBMC; 1:209848535, G0S2||Proximal Promoter:-134, PBMC; 1:209848550, G0S2||Proximal Promoter:-

119, PBMC; 1:209979779, IRF6||Proximal Promoter:-259, PBMC; 1:210111561, SYT14||Proximal Promoter:24|Proximal Promoter:43, PBMC; 1:211590292, LINC00467||Intron 4:34196, PBMC; 1:2120985, C1orf86||3' Proximal Enhancer:5229|Intron 7:18187, PRKCZ||3' Proximal Enhancer:84831|3' Proximal Enhancer:115561|3' Proximal Enhancer:115900|3' Proximal Enhancer:139077, PBMC; 1:2121039, C1orf86||Exon 4:5175|Intron 7:18133, PRKCZ||3' Proximal Enhancer:84885|3' Proximal Enhancer:115615|3' Proximal Enhancer:115954|3' Proximal Enhancer:139131, PBMC; 1:2121349, C1orf86||Intron 3:4865|Intron 7:17823, PRKCZ||3' Proximal Enhancer:85195|3' Proximal Enhancer:115925|3' Proximal Enhancer:116264|3' Proximal Enhancer:139441, PBMC; 1:212457424, PPP2R5A||Proximal Promoter:-1454, PBMC; 1:212558854, TMEM206||Intron 4:29389|Intron 3:29413, PBMC; 1:212761056, ATF3||Intron 1:22381, PBMC; 1:214152805, PROX1||5' Proximal Enhancer:-9054, PBMC; 1:214160860, PROX1||Proximal Promoter:-999, PBMC; 1:214328927, PBMC; 1:214435182, PBMC; 1:21617442, ECE1||Proximal Promoter:-676|Proximal Promoter:-460|Intron 1:54592, LOC100506801||Proximal Promoter:-2340, PBMC; 1:2161886, SKI||Intron 1:1753, PBMC; 1:2162931, SKI||Intron 1:2798, PBMC; 1:2163437, SKI||Intron 1:3304, PBMC; 1:2163529, SKI||Intron 1:3396, PBMC; 1:2164542, SKI||Intron 1:4409, PBMC; 1:2164602, SKI||Intron 1:4469, PBMC; 1:2165579, SKI||Intron 1:5446, PBMC; 1:21656047, PBMC; 1:217113226, ESRRG||Proximal Promoter:-211|Proximal Promoter:-209|Intron 2:137086|Intron 1:149761|Intron 1:149970|Intron 2:197871, PBMC; 1:217310918, ESRRG||Proximal Promoter:179, PBMC; 1:21945805, RAP1GAP||Intron 4:32543|Intron 5:50051, PBMC; 1:221065148, HLX||3' Proximal Enhancer:12406, PBMC; 1:221065322, HLX||3' Proximal Enhancer:12580, PBMC; 1:221065961, HLX||3' Proximal Enhancer:13219, PBMC; 1:223538359, SUSD4||Proximal Promoter:-815, PBMC; 1:223747670, CAPN8||Intron 10:105766, PBMC; 1:223901187, CAPN2||Intron 1:1069|Intron 1:11893, PBMC; 1:223936838, CAPN2||Intron 6:36720|Intron 6:47544, PBMC; 1:224180288, PBMC; 1:22425642, CDC42||3' Proximal Enhancer:46523, PBMC; 1:224691275, PBMC; 1:224804053, CNIH3||Proximal Promoter:-125, PBMC; 1:22580632, PBMC; 1:22591361, PBMC; 1:226053673, TMEM63A||Intron 9:16747, PBMC; 1:226069078, LEFTY1||3' Proximal Enhancer:7768, TMEM63A||Intron 1:1342, PBMC; 1:226069189, LEFTY1||3' Proximal Enhancer:7657, TMEM63A||Intron 1:1231, PBMC; 1:226085836, LEFTY1||5' Proximal Enhancer:-8990, PBMC; 1:226127290, LEFTY2||Exon 4:1793, PBMC; 1:226830923, ITPKB||Intron 4:95953, PBMC; 1:226833134, ITPKB||Intron 4:93742, PBMC; 1:226878419, ITPKB||Intron 2:48457, PBMC; 1:227015418, PBMC; 1:227963164, SNAP47||Intron 4:40468, PBMC; 1:228075452, PBMC; 1:228246937, WNT3A||Exon 4:52215, PBMC; 1:228464049, OBSCN||Intron 21:68189, PBMC; 1:228666638, RNF187||5' Proximal Enhancer:-8429, PBMC; 1:228743235, PBMC; 1:228743373, PBMC; 1:229064268, PBMC; 1:229252042, PBMC; 1:229569902, ACTA1||Proximal Promoter:-59, NUP133||3' Proximal Enhancer:74186, PBMC; 1:230306100, GALNT2||Intron 1:103145, PBMC; 1:230563798, PBMC; 1:230849801, AGT||Intron 1:535, PBMC; 1:231761845, DISC1||Proximal Promoter:-715, PBMC; 1:234366259, SLC35F3||Intron 2:325581, PBMC; 1:234613490, TARBP1||Intron 1:1359, PBMC; 1:23474871, LUZP1||Intron 1:20480, PBMC; 1:235266653, TOMM20||3' Proximal Enhancer:25603, PBMC; 1:235292369, RBM34||3' Proximal Enhancer:32202, SNORA14B||Proximal Promoter:-1117, PBMC; 1:236681580, LGALS8||5' Proximal Enhancer:-5446|5' Proximal Enhancer:-5158|Proximal Promoter:67, LGALS8-AS1||3' Proximal Enhancer:6228, PBMC; 1:236849966, ACTN2||Proximal Promoter:197, PBMC; 1:2373387, PBMC; 1:23953778, MDS2||Proximal Promoter:-45, PBMC; 1:239550283, PBMC; 1:239550303, PBMC; 1:240160972, RPS7P5||5' Proximal Enhancer:-9851, PBMC; 1:240161061, RPS7P5||5' Proximal Enhancer:-9762, PBMC; 1:241520286, PBMC; 1:242002464, EXO1||5' Proximal Enhancer:-9568|5' Proximal Enhancer:-9028, PBMC; 1:242687465, PLD5||Exon 2:533, PBMC; 1:243264842, LOC731275||Proximal Promoter:204, PBMC; 1:243265016, LOC731275||Proximal Promoter:30, PBMC; 1:244213886, LOC339529||3' Proximal Enhancer:133183, ZNF238||Distal Promoter:-2695|Proximal Promoter:-674, PBMC; 1:244829264, PPPDE1||Intron 1:12913, PBMC; 1:245673856, KIF26B||Intron 4:355570, PBMC; 1:245843929, KIF26B||Intron 10:525643, PBMC; 1:246383021, SMYD3||Intron 5:197693|Intron 5:287623, PBMC; 1:246415176, SMYD3||Intron 5:165538|Intron 5:255468, PBMC; 1:246580717, SMYD3||Proximal Promoter:-3|Intron 1:89927, PBMC; 1:247275326, C1orf229||Proximal Promoter:393, ZNF124||3' Proximal Enhancer:59992, PBMC; 1:247275344, C1orf229||Proximal Promoter:375, ZNF124||3' Proximal Enhancer:59974, PBMC; 1:247578953, NLRP3||Proximal Promoter:-2397|Proximal Promoter:-504, PBMC; 1:247803637, PBMC; 1:248058104, OR2W3||Proximal Promoter:-784, PBMC; 1:24828096, RCAN3||5' Proximal Enhancer:-5987|Proximal Promoter:-1290|Proximal Promoter:-744, RCAN3AS||Intron 1:754, PBMC; 1:249111407, MIR3124||5' Proximal Enhancer:-9168, SH3BP5L||Intron 2:8747, PBMC; 1:24921758, C1orf130||Intron 1:39192, PBMC; 1:25360712, PBMC; 1:25426427, PBMC; 1:25870981, LDLRAP1||Intron 1:906, PBMC; 1:25876626, LDLRAP1||Intron 1:6551, PBMC; 1:25944712, MAN1C1||Exon 1:754, PBMC; 1:25944802, MAN1C1||Exon 1:844, PBMC; 1:25948511, MAN1C1||Intron 1:4553, PBMC; 1:26250290,

PBMC; 1:26527870, 1:26527870, CATSPER4||Exon 9:10752, PBMC; 1:26527909, CATSPER4||Exon 9:10791, PBMC; 1:26880547, MIR1976||Proximal Promoter:-485, RPS6KA1||Intron 6:8205|Intron 7:24299, PBMC; 1:26880928, MIR1976||Proximal Promoter:-104, RPS6KA1||Intron 7:8586|Intron 8:24680, PBMC; 1:2706335, TTC34||Proximal Promoter:-105, PBMC; 1:27152694, ZDHHC18||Proximal Promoter:-506, PBMC; 1:27155069, ZDHHC18||Intron 1:1869, PBMC; 1:2738746, PBMC; 1:2785382, PBMC; 1:27964774, FGR||Distal Promoter:-3047, PBMC; 1:27977270, PBMC; 1:2844356, PBMC; 1:28763330, PHACTR4||Proximal Promoter:-1330|Intron 2:67238, PBMC; 1:28826586, PHACTR4||Exon 13:61926|Exon 14:130494, RCC1|SNHG3||5' Proximal Enhancer:-5868, PBMC; 1:2984275, FLJ42875||Proximal Promoter:14, PRDM16||Proximal Promoter:-1466, PBMC; 1:2984445, FLJ42875||Proximal Promoter:-156, PRDM16||Proximal Promoter:-1296, PBMC; 1:2984470, FLJ42875||Proximal Promoter:-181, PRDM16||Proximal Promoter:-1271, PBMC; 1:2990490, FLJ42875||5' Proximal Enhancer:-6201, PRDM16||Intron 1:4749, PBMC; 1:3090345, PBMC; 1:31234437, PBMC; 1:3135836, PBMC; 1:3142925, PBMC; 1:32169868, COL16A1||Proximal Promoter:-100, PBMC; 1:32535981, TMEM39B||Distal Promoter:-2521, PBMC; 1:3447348, MEGF6||Intron 4:80711, PBMC; 1:34615965, PBMC; 1:34642519, C1orf94||Proximal Promoter:-33|Intron 1:9896, PBMC; 1:35384669, PBMC; 1:35661778, SFPQ||Distal Promoter:-3035, PBMC; 1:3600735, TP73||5' Proximal Enhancer:-6500|Intron 3:31607, PBMC; 1:3663435, CCDC27||5' Proximal Enhancer:-5529, TP73-AS1||Proximal Promoter:-100|Exon 1:502, PBMC; 1:36771844, SH3D21||Proximal Promoter:-863|Proximal Promoter:-149, THRAP3||3' Proximal Enhancer:81828, PBMC; 1:36786777, FAM176B||3' Proximal Enhancer:2978, SH3D21||Exon 13:14070|Exon 16:14784, PBMC; 1:36787678, FAM176B||Exon 3:2077, SH3D21||3' Proximal Enhancer:14971|3' Proximal Enhancer:15685, PBMC; 1:36832173, STK40||Intron 2:19312, PBMC; 1:37875985, PBMC; 1:37973652, MEAF6||Intron 4:6712, PBMC; 1:38100255, RSPO1||Proximal Promoter:340, PBMC; 1:38396334, 1:38396334, INPP5B||Intron 7:16395, PBMC; 1:38461540, FHL3||3' Proximal Enhancer:9647, SF3A3||5' Proximal Enhancer:-5779, PBMC; 1:38461880, FHL3||3' Proximal Enhancer:9307, SF3A3||5' Proximal Enhancer:-6119, PBMC; 1:39500070, NDUFS5||Exon 3:8104, PBMC; 1:39875238, KIAA0754||Proximal Promoter:63, MACF1||Intron 54:328150, PBMC; 1:40507857, CAP1||Intron 1:1603, PBMC; 1:40598772, PBMC; 1:4087676, PBMC; 1:41350183, PBMC; 1:41901646, PBMC; 1:42128487, HIVEP3||Intron 2:255891, PBMC; 1:42193353, HIVEP3||Intron 1:191025, PBMC; 1:43281678, CCDC23||Intron 2:1381, ERMAP||5' Proximal Enhancer:-9570|Proximal Promoter:-1097, PBMC; 1:43919084, HYI||Exon 2:576, SZT2||Exon 71:63529, PBMC; 1:44687590, DMAP1||3' Proximal Enhancer:8466, ERI3||Intron 8:133349, PBMC; 1:44771985, ERI3||Intron 6:48954, PBMC; 1:4481995, LOC284661||Intron 3:9885, PBMC; 1:45189026, C1orf228||Intron 6:48633, PBMC; 1:45276338, BTBD19||Intron 3:2185, PLK3||3' Proximal Enhancer:10303, PBMC; 1:45276537, BTBD19||Intron 3:2384, PLK3||3' Proximal Enhancer:10502, PBMC; 1:46420220, MAST2||Intron 4:150936, PBMC; 1:46807113, NSUN4||Intron 1:724, PBMC; 1:46807263, NSUN4||Intron 1:874, PBMC; 1:46814106, NSUN4||Intron 3:7717, PBMC; 1:46859680, FAAH||Proximal Promoter:-258, PBMC; 1:47691301, TAL1||Exon 2:4142, PBMC; 1:4771682, AJAP1||Intron 1:56578, PBMC; 1:48559803, SKINTL||3' Proximal Enhancer:88297, PBMC; 1:50513927, ELAVL4||Proximal Promoter:242, PBMC; 1:50884480, 1:50884480, DMRTA2||Exon 3:4639, PBMC; 1:50886782, DMRTA2||Exon 2:2337, PBMC; 1:51700514, RNF11||Proximal Promoter:-1430, PBMC; 1:51982669, EPS15||Intron 1:2326, PBMC; 1:53875972, PBMC; 1:54821853, SSBP3||Intron 4:50126|Intron 4:50239, PBMC; 1:55014160, ACOT11||Proximal Promoter:354, PBMC; 1:55270680, C1orf177||Proximal Promoter:-1055, TTC22||Distal Promoter:-3739, PBMC; 1:568536, PBMC; 1:58858074, PBMC; 1:5890615, PBMC; 1:59008471, OMA1||Intron 1:3975, PBMC; 1:59043173, TACSTD2||Proximal Promoter:-7, PBMC; 1:59043208, TACSTD2||Proximal Promoter:-42, PBMC; 1:60280809, HOOK1||Proximal Promoter:277, PBMC; 1:60280812, HOOK1||Proximal Promoter:280, PBMC; 1:60539362, C1orf87||Proximal Promoter:80, PBMC; 1:6085995, KCNAB2||5' Proximal Enhancer:-8352|Proximal Promoter:-77|Intron 1:33638, PBMC; 1:6269260, RNF207||Intron 5:3072, RPL22||5' Proximal Enhancer:-9581, PBMC; 1:6325058, ACOT7||Intron 8:93946|Intron 8:95706|Intron 8:120825|Intron 8:128768, GPR153||Distal Promoter:-4023, PBMC; 1:6526398, PLEKHG5||Exon 21:19616|Exon 21:24242|Exon 21:25362|Exon 22:31086|Exon 22:53671, TNFRSF25||Proximal Promoter:-143, PBMC; 1:6526469, PLEKHG5||Exon 21:19545|Exon 21:24171|Exon 21:25291|Exon 22:31015|Exon 22:53600, TNFRSF25||Proximal Promoter:-214, PBMC; 1:65530538, MIR101-1||5' Proximal Enhancer:-6347, MIR3671||5' Proximal Enhancer:-7013, PBMC; 1:65885547, DNAJC6||3' Proximal Enhancer:155118, LEPR||Proximal Promoter:-787, PBMC; 1:6659504, KLHL21||Exon 2:3425, PBMC; 1:6706713, DNAJC11||Intron 7:55253, PBMC; 1:67600428, C1orf141||5' Proximal Enhancer:-6208, PBMC; 1:67600547, C1orf141||5' Proximal Enhancer:-6327, PBMC; 1:67600707, C1orf141||5' Proximal Enhancer:-6487, PBMC; 1:67600835, C1orf141||5' Proximal Enhancer:-6615, PBMC; 1:7122726, CAMTA1||Intron 3:277343, PBMC;

1:75594592, LHX8||5' Proximal Enhancer:-5974|Proximal Promoter:474, PBMC; 1:75597485, LHX8||Distal Promoter:-3081|Intron 2:3367, PBMC; 1:76189707, ACADM||Proximal Promoter:-335, PBMC; 1:76189770, ACADM||Proximal Promoter:-272, PBMC; 1:76189801, ACADM||Proximal Promoter:-241, PBMC; 1:7842369, PER3||Proximal Promoter:-2393, VAMP3||3' Proximal Enhancer:11041, PBMC; 1:7842393, PER3||Proximal Promoter:-2369, VAMP3||3' Proximal Enhancer:11065, PBMC; 1:7842406, PER3||Proximal Promoter:-2356, VAMP3||3' Proximal Enhancer:11078, PBMC; 1:7973298, TNFRSF9||3' Proximal Enhancer:29927, PBMC; 1:82267165, LPHN2||Intron 1:1084, PBMC; 1:839752, PBMC; 1:84326856, TTLL7||3' Proximal Enhancer:137977, PBMC; 1:8477935, RERE||Intron 2:5812|Intron 13:399764, PBMC; 1:8482689, RERE||Intron 2:1058|Intron 13:395010, PBMC; 1:85313079, LPAR3||Intron 2:45817, PBMC; 1:8570225, RERE||Intron 8:307474, PBMC; 1:86968087, CLCA1||3' Proximal Enhancer:33562, PBMC; 1:86968184, CLCA1||3' Proximal Enhancer:33659, PBMC; 1:86968255, CLCA1||3' Proximal Enhancer:33730, PBMC; 1:86968543, CLCA1||3' Proximal Enhancer:34018, PBMC; 1:87600446, LOC339524||Exon 4:2838|Intron 2:4999, PBMC; 1:88928467, PBMC; 1:89459529, CCBL2|RBMXL1||Proximal Promoter:-886, PBMC; 1:89459658, CCBL2|RBMXL1||Proximal Promoter:-1015, PBMC; 1:90160031, LRRC8C||Intron 2:61388, PBMC; 1:90223037, PBMC; 1:906363, C1orf170||3' Proximal Enhancer:11110, KLHL17||3' Proximal Enhancer:10397, PBMC; 1:91171013, BARHL2||3' Proximal Enhancer:11781, PBMC; 1:91227319, PBMC; 1:92101219, 1:92101219, HSP90B3P||Intron 1:652, PBMC; 1:9243600, PBMC; 1:92947961, GFI1||Intron 3:1395|Intron 3:3667|Intron 3:4472, PBMC; 1:92952440, GFI1||Distal Promoter:-3084|Proximal Promoter:-812|Proximal Promoter:-7, PBMC; 1:92952467, GFI1||Distal Promoter:-3111|Proximal Promoter:-839|Proximal Promoter:-34, PBMC; 1:92952517, GFI1||Distal Promoter:-3161|Proximal Promoter:-889|Proximal Promoter:-84, PBMC; 1:92952581, GFI1||Distal Promoter:-3225|Proximal Promoter:-953|Proximal Promoter:-148, PBMC; 1:94929484, ABCD3||Intron 2:45552, PBMC; 1:949893, AGRN||5' Proximal Enhancer:-5609, ISG15||Exon 2:1047, PBMC; 1:95088560, PBMC; 1:958351, AGRN||Intron 2:2849, ISG15||3' Proximal Enhancer:9505, PBMC; 1:9942543, CTNNBIP1||Intron 2:27773, PBMC; 1:99469634, LOC100129620||Proximal Promoter:-197, LPPR5||Intron 1:815, PBMC; 1:99471295, LOC100129620||Intron 1:1464, LPPR5||Proximal Promoter:-846, PBMC; 20:10412596, C20orf94||Distal Promoter:-3354, MKKS||Proximal Promoter:-26|Intron 1:2270, PBMC; 20:11869467, BTBD3||Proximal Promoter:-2009, PBMC; 20:11871576, BTBD3||Proximal Promoter:100, PBMC; 20:13768987, C20orf7||Intron 2:3316, ESF1||Distal Promoter:-3455, PBMC; 20:15177509, MACROD2||Proximal Promoter:6, PBMC; 20:1757570, LOC100289473||Intron 2:2822, PBMC; 20:17593441, DSTN||3' Proximal Enhancer:42843, RRBP1||3' Proximal Enhancer:69487, PBMC; 20:21087075, PBMC; 20:2187533, PBMC; 20:23433608, CST11||Proximal Promoter:-126, CSTL1||3' Proximal Enhancer:13287, PBMC; 20:23807359, 20:23807359, CST2||Proximal Promoter:-47, PBMC; 20:24451518, SYNDIG1||Intron 1:1684, PBMC; 20:25062254, VSX1||Intron 1:513, PBMC; 20:25177340, ENTPD6||Intron 1:1002, PBMC; 20:25450839, NINL||Intron 17:115314, PBMC; 20:26188963, LOC284801||Intron 1:906, MIR663A||Proximal Promoter:-49, PBMC; 20:26188997, LOC284801||Intron 1:872, MIR663A||Proximal Promoter:-83, PBMC; 20:2674548, EBF4||Intron 2:1025, PBMC; 20:2675072, EBF4||Intron 2:1549, PBMC; 20:2730488, EBF4||Intron 10:56965, PBMC; 20:29611652, FRG1B||Proximal Promoter:-226, PBMC; 20:29612151, FRG1B||Proximal Promoter:273, PBMC; 20:30073521, LINC00028||Proximal Promoter:-59, REM1||3' Proximal Enhancer:10417, PBMC; 20:30073576, LINC00028||Proximal Promoter:-4, REM1||3' Proximal Enhancer:10472, PBMC; 20:31619500, BPIFB2||3' Proximal Enhancer:24094, BPIFB6||Proximal Promoter:47, PBMC; 20:32856846, ASIP||Exon 3:8676, PBMC; 20:32856898, 20:32856898, ASIP||Exon 3:8728, PBMC; 20:32857072, ASIP||Exon 3:8902, PBMC; 20:32857151, ASIP||3' Proximal Enhancer:8981, PBMC; 20:32857227, ASIP||3' Proximal Enhancer:9057, PBMC; 20:33292126, TP53INP2||Proximal Promoter:-21, PBMC; 20:35064637, DLGAP4||Exon 3:69194, PBMC; 20:35169846, MYL9||Proximal Promoter:-40, PBMC; 20:35169881, MYL9||Proximal Promoter:-5, PBMC; 20:35169886, MYL9||Proximal Promoter:0, PBMC; 20:35274281, NDRG3||3' Proximal Enhancer:100260, SLA2||Proximal Promoter:338, PBMC; 20:36013428, SRC||Intron 4:38872|Intron 4:40341, PBMC; 20:36041285, SRC||3' Proximal Enhancer:66729|3' Proximal Enhancer:68198, PBMC; 20:36793866, TGM2||Proximal Promoter:-166, PBMC; 20:36889208, KIAA1755||Proximal Promoter:-34, PBMC; 20:36889378, KIAA1755||Proximal Promoter:-204, PBMC; 20:37438823, PPP1R16B||Intron 1:4476, PBMC; 20:3780182, CDC25B||Intron 3:3782, PBMC; 20:3869020, PANK2||Proximal Promoter:-1442|Proximal Promoter:-721|Proximal Promoter:-465, PBMC; 20:39317194, MAFB||Exon 1:682, PBMC; 20:44007674, SYS1||3' Proximal Enhancer:15935|3' Proximal Enhancer:17098, SYS1-DBNDD2||Intron 3:15866, PBMC; 20:44099675, WFDC2||Intron 2:1282, PBMC; 20:44839187, CDH22||Exon 6:41147, PBMC; 20:44990591, 20:44990591, ELMO2||3' Proximal Enhancer:44680, SLC35C2||Intron 1:2473, PBMC; 20:45523294, EYA2||Proximal Promoter:32, PBMC; 20:45523541, EYA2||Proximal Promoter:279, PBMC; 20:46414355,

SULF2||Proximal Promoter:453|Intron 1:1005, PBMC; 20:48101550, KCNB1||Proximal Promoter:-2369, PBMC; 20:48726783, TMEM189-UBE2V1||Intron 5:43552, UBE2V1||Intron 1:2927|Intron 2:5708|Intron 2:5711, PBMC; 20:48770800, TMEM189|TMEM189-UBE2V1||Proximal Promoter:-465, PBMC; 20:48809539, CEBPB||3' Proximal Enhancer:2420, PBMC; 20:48963280, PBMC; 20:50385371, ATP9A||Proximal Promoter:-463, PBMC; 20:52185464, ZNF217||Exon 5:14172, PBMC; 20:54986888, CASS4||Proximal Promoter:-425|Proximal Promoter:-279, CSTF1||3' Proximal Enhancer:19182|3' Proximal Enhancer:19315|3' Proximal Enhancer:19462, PBMC; 20:57044710, APCDD1L||Intron 2:45239, PBMC; 20:57426626, GNAS||Proximal Promoter:-1409|Intron 1:11832, GNAS-AS1||Proximal Promoter:-668, PBMC; 20:57463991, GNAS||Proximal Promoter:-2434|Proximal Promoter:-188|Intron 1:35956|Intron 1:49197, PBMC; 20:58983676, PBMC; 20:59542589, PBMC; 20:60500578, CDH4||Intron 10:325762|Intron 10:426102|Intron 11:673097, PBMC; 20:60520624, CDH4||3' Proximal Enhancer:345808|3' Proximal Enhancer:446148|3' Proximal Enhancer:693143, MIR1257||3' Proximal Enhancer:8094, PBMC; 20:60525775, MIR1257||3' Proximal Enhancer:2943, PBMC; 20:60527061, MIR1257||3' Proximal Enhancer:1657, PBMC; 20:60692839, LSM14B||Distal Promoter:-4677, PBMC; 20:60884601, ADRM1||3' Proximal Enhancer:6575, LAMA5||Intron 79:57767, PBMC; 20:61049813, GATA5||Intron 2:1213, PBMC; 20:61314143, PBMC; 20:61583736, C20orf11||3' Proximal Enhancer:14296, SLC17A9||Proximal Promoter:-262, PBMC; 20:61584850, C20orf11||3' Proximal Enhancer:15410, SLC17A9||Intron 1:852, PBMC; 20:61809724, MIR124-3||Proximal Promoter:-127, PBMC; 20:61940917, COL20A1||Intron 9:16380, PBMC; 20:61992494, CHRNA4||Proximal Promoter:201, PBMC; 20:62084626, KCNQ2||Intron 1:19367, PBMC; 20:62168878, PTK6||Proximal Promoter:-171, SRMS||3' Proximal Enhancer:9979, PBMC; 20:62198872, PRIC285||Proximal Promoter:235|Exon 7:6720, PBMC; 20:62199034, PRIC285||Proximal Promoter:73|Intron 6:6558, PBMC; 20:62199156, PRIC285||Proximal Promoter:-49|Intron 6:6436, PBMC; 20:62199181, PRIC285||Proximal Promoter:-74|Intron 6:6411, PBMC; 20:62199190, PRIC285||Proximal Promoter:-83|Intron 6:6402, PBMC; 20:62200091, PRIC285||Proximal Promoter:-984|Exon 6:5501, PBMC; 20:62200199, PRIC285||Proximal Promoter:-1092|Exon 6:5393, PBMC; 20:62204908, PRIC285||5' Proximal Enhancer:-5801|Intron 1:684, PBMC; 20:62212228, GMEB2||3' Proximal Enhancer:46153, PRIC285||5' Proximal Enhancer:-6636, PBMC; 20:62272968, 20:62272968, STMN3||Intron 4:11812, PBMC; 20:62318426, RTEL1|RTEL1-TNFRSF6B||Intron 16:29264, TNFRSF6B||5' Proximal Enhancer:-9577, PBMC; 20:62318433, RTEL1|RTEL1-TNFRSF6B||Intron 16:29271, TNFRSF6B||5' Proximal Enhancer:-9570, PBMC; 20:623187, 20:623187, SRXN1||3' Proximal Enhancer:10703, PBMC; 20:62370310, LIME1||Exon 6:2333, SLC2A4RG||Proximal Promoter:-900, PBMC; 20:62679635, LINC00176||3' Proximal Enhancer:13939, SOX18||Exon 2:1344, PBMC; 20:690915, PBMC; 20:741798, C20orf54||Exon 5:7430, PBMC; 20:825634, FAM110A||Proximal Promoter:350|Exon 2:8924|Exon 2:11279, PBMC; 20:825798, FAM110A||Exon 1:514|Exon 2:9088|Exon 2:11443, PBMC; 20:9049361, PLCB4||Proximal Promoter:-339, PBMC; 21:15069190, PBMC; 21:32930140, TIAM1||Intron 1:1150, PBMC; 21:33242495, HUNK||Distal Promoter:-3132, PBMC; 21:34396986, OLIG2||Proximal Promoter:-1229, PBMC; 21:34398265, OLIG2||Proximal Promoter:50, PBMC; 21:35832028, KCNE1||Distal Promoter:-3965|Proximal Promoter:-126|Intron 1:51585, PBMC; 21:36258423, RUNX1||Intron 1:2564|Intron 4:163172, PBMC; 21:36259460, RUNX1||Exon 1:1527|Intron 3:162135, PBMC; 21:36395663, PBMC; 21:37442476, CBR1||Proximal Promoter:192, LOC100133286||Exon 4:56462, PBMC; 21:37761363, CHAF1B||Intron 3:3675, PBMC; 21:38068581, SIM2||Distal Promoter:-3409, PBMC; 21:38071688, SIM2||Proximal Promoter:-302, PBMC; 21:38071911, SIM2||Proximal Promoter:-79, PBMC; 21:38072150, SIM2||Proximal Promoter:160, PBMC; 21:38074992, SIM2||Intron 1:3002, PBMC; 21:38353114, HLCS||Proximal Promoter:150|Intron 1:9431, PBMC; 21:38379036, DSCR6||Proximal Promoter:174, PBMC; 21:39644332, KCNJ15||Proximal Promoter:-96|Intron 1:15463|Intron 2:15669, PBMC; 21:42620091, PBMC; 21:42879213, TMPRSS2||Intron 1:779|Intron 1:872, PBMC; 21:43099365, LINC00111||Proximal Promoter:-96, PBMC; 21:43243901, PRDM15||Intron 13:55681|Intron 20:55690, PBMC; 21:43346284, C2CD2||Intron 1:515|Intron 2:27715, PBMC; 21:43528205, C21orf128||Proximal Promoter:439, UMODL1||Intron 9:36780|Intron 9:45138, PBMC; 21:43528734, C21orf128||Proximal Promoter:-90, UMODL1||Intron 9:37309|Intron 9:45667, PBMC; 21:43528868, C21orf128||Proximal Promoter:-224, UMODL1||Intron 9:37443|Intron 9:45801, PBMC; 21:43528949, C21orf128||Proximal Promoter:-305, UMODL1||Intron 9:37524|Intron 9:45882, PBMC; 21:43529162, C21orf128||Proximal Promoter:-518, UMODL1||Intron 9:37737|Intron 9:46095, PBMC; 21:43619559, ABCG1||Proximal Promoter:-362|Proximal Promoter:-239, PBMC; 21:43619651, ABCG1||Proximal Promoter:-270|Proximal Promoter:-147, PBMC; 21:43989949, SLC37A1||Intron 18:70208, PBMC; 21:45147292, 21:45147292, PDXK||Intron 1:8315, PBMC; 21:45199094, CSTB||Distal Promoter:-2835, PBMC; 21:45577667, PBMC; 21:46220161, SUMO3||3' Proximal Enhancer:17883, UBE2G2||Intron 2:1590, PBMC; 21:46237385, SUMO3||Intron 1:659, PBMC; 21:46292084,

PTTG1IP||Intron 1:1734, PBMC; 21:46505130, ADARB1||Intron 1:10638, PBMC; 21:46856438, PBMC; 21:47392916, COL6A1||5' Proximal Enhancer:-8746, PBMC; 21:47396773, COL6A1||Distal Promoter:-4889, PBMC; 21:47851941, PCNT||Exon 38:107906, PBMC; 21:48056967, PRMT2||Intron 3:1461, PBMC; 21:48081619, PRMT2||Intron 9:26113, PBMC; 21:48081686, PRMT2||Intron 9:26180, PBMC; 22:17082772, CCT8L2||5' Proximal Enhancer:-9072, TPTEP1||Proximal Promoter:-28, PBMC; 22:17082787, CCT8L2||5' Proximal Enhancer:-9087, TPTEP1||Proximal Promoter:-13, PBMC; 22:18635460, USP18||Intron 1:2703, PBMC; 22:18832673, PBMC; 22:18985691, DGCR5||3' Proximal Enhancer:27681, PBMC; 22:19010468, DGCR10||Proximal Promoter:332, DGCR9||3' Proximal Enhancer:5122, PBMC; 22:19137371, GSC2||Proximal Promoter:425, PBMC; 22:19141030, GSC2||Distal Promoter:-3234, PBMC; 22:19744062, TBX1||Proximal Promoter:-163, PBMC; 22:20194554, LOC150197||Exon 1:700, LOC284865||Proximal Promoter:-2113, PBMC; 22:20310676, DGCR6L||Distal Promoter:-3048, PBMC; 22:20464947, RIMBP3||Distal Promoter:-3161, PBMC; 22:20785148, SCARF2||Exon 5:6998, PBMC; 22:21823579, PI4KAP2||3' Proximal Enhancer:48201, TMEM191C||Exon 7:2121, PBMC; 22:23489041, RAB36||Intron 2:1529, PBMC; 22:24093826, VPREB3||3' Proximal Enhancer:2804, ZNF70||Proximal Promoter:-547, PBMC; 22:24979964, FAM211B||3' Proximal Enhancer:9071, GGT1||Proximal Promoter:247, PBMC; 22:27299879, PBMC; 22:28197091, MN1||Proximal Promoter:395, PBMC; 22:29866624, NEFH||5' Proximal Enhancer:-9556, PBMC; 22:29876945, NEFH||Exon 1:765, PBMC; 22:30116919, CABP7||Intron 1:576, PBMC; 22:30116953, CABP7||Intron 1:610, ZMAT5||3' Proximal Enhancer:46016, PBMC; 22:30592435, PBMC; 22:30792674, RNF215||5' Proximal Enhancer:-9372, SEC14L2||Proximal Promoter:-255, PBMC; 22:31336785, MORC2||Exon 11:27402, PBMC; 22:31675144, LIMK2||Exon 15:30797|Exon 16:66895, PIK3IP1||3' Proximal Enhancer:13376, PBMC; 22:31736976, PATZ1||Intron 2:5273, PBMC; 22:32439254, SLC5A1||Proximal Promoter:236, PBMC; 22:32441170, SLC5A1||Intron 1:2152, PBMC; 22:32599648, RFPL2||Proximal Promoter:-1111|Proximal Promoter:-184|Intron 1:1070, PBMC; 22:34316316, PBMC; 22:35695234, HMGXB4||3' Proximal Enhancer:41790, TOM1||Proximal Promoter:-562|Proximal Promoter:-33, PBMC; 22:35695301, HMGXB4||3' Proximal Enhancer:41857, TOM1||Proximal Promoter:-495|Proximal Promoter:34, PBMC; 22:36600979, APOL4||Proximal Promoter:-100, PBMC; 22:38029478, GGA1||Exon 18:24432|Exon 17:24998, SH3BP1||5' Proximal Enhancer:-6205, PBMC; 22:39129370, GTPBP1||Exon 12:27564, SUN2||3' Proximal Enhancer:22097|3' Proximal Enhancer:22654, PBMC; 22:39239335, NPTXR||Exon 1:682, PBMC; 22:39527583, CBX7||Exon 6:20955, PBMC; 22:40019116, CACNA1I||Intron 4:52359, PBMC; 22:40081520, CACNA1I||Intron 36:114763, PBMC; 22:40355732, GRAP2||Intron 3:58647, PBMC; 22:42078707, C22orf46||5' Proximal Enhancer:-7839, NHP2L1||Proximal Promoter:-151|Intron 1:6206, PBMC; 22:42395067, SEPT3||3' Proximal Enhancer:22137, WBP2NL||Proximal Promoter:339, PBMC; 22:42485811, C22orf32||3' Proximal Enhancer:10117, LOC100132273||Proximal Promoter:-1125, PBMC; 22:43409880, PACSIN2||Intron 1:1304, PBMC; 22:44258602, SULT4A1||Proximal Promoter:-224, PBMC; 22:45094547, PRR5||Distal Promoter:-3530|Intron 2:21860|Intron 1:30121, PRR5-ARHGAP8||Distal Promoter:-3834, PBMC; 22:45403493, PHF21B||Intron 2:1381|Intron 2:2088|Intron 3:2316, PBMC; 22:45403507, PHF21B||Intron 2:1367|Intron 2:2074|Intron 3:2302, PBMC; 22:45706726, FAM118A||Intron 1:942|Intron 2:1646, PBMC; 22:46262436, PBMC; 22:46275235, PBMC; 22:46323087, WNT7B||Intron 3:49921, PBMC; 22:46372098, 22:46372098, WNT7B||Intron 1:910, PBMC; 22:46448690, C22orf26||Intron 1:1334, LOC100271722||5' Proximal Enhancer:-7942, PBMC; 22:46449752, C22orf26||Proximal Promoter:272, LOC100271722||5' Proximal Enhancer:-9004, PBMC; 22:46469091, PBMC; 22:47081634, 22:47081634, CERK||Exon 13:52518, GRAMD4||3' Proximal Enhancer:58977, PBMC; 22:48885446, FAM19A5||Proximal Promoter:159, PBMC; 22:48896579, FAM19A5||Intron 1:11292, PBMC; 22:48971051, FAM19A5||Proximal Promoter:-1066, PBMC; 22:48972349, FAM19A5||Proximal Promoter:232, PBMC; 22:50098317, PBMC; 22:50099606, PBMC; 22:50524676, MLC1||Proximal Promoter:-895|Proximal Promoter:-318, MOV10L1||Distal Promoter:-4008|Distal Promoter:-3758, PBMC; 22:50524691, MLC1||Proximal Promoter:-910|Proximal Promoter:-333, MOV10L1||Distal Promoter:-3993|Distal Promoter:-3743, PBMC; 22:50625926, PANX2||3' Proximal Enhancer:16767, TRABD||Intron 1:1567, PBMC; 22:50970943, NCAPH2||3' Proximal Enhancer:24299, ODF3B||Proximal Promoter:65, PBMC; 22:50971109, NCAPH2||3' Proximal Enhancer:24465, ODF3B||Proximal Promoter:-101, PBMC; 22:50971140, NCAPH2||3' Proximal Enhancer:24496, ODF3B||Proximal Promoter:-132, PBMC; 22:50981121, KLHDC7B||5' Proximal Enhancer:-5340, SYCE3||3' Proximal Enhancer:20207, PBMC; 2:101124858, PBMC; 2:101436427, NPAS2||Proximal Promoter:-185, PBMC; 2:10197543, CYS1||Exon 3:22995, KLF11||3' Proximal Enhancer:13172|3' Proximal Enhancer:13588|3' Proximal Enhancer:13862, PBMC; 2:102091269, RFX8||Proximal Promoter:-104, PBMC; 2:102870456, PBMC; 2:103033753, IL18RAP||Proximal Promoter:-1500, PBMC; 2:103035835, IL18RAP||Intron 1:582, PBMC; 2:103378135, TMEM182||Proximal Promoter:-354, PBMC; 2:10442040, HPCAL1||Proximal

Promoter:-1785|Proximal Promoter:-999, PBMC; 2:10443758, HPCAL1||Proximal Promoter:-67|Intron 1:719, PBMC; 2:10472214, HPCAL1||Intron 1:28389|Intron 1:29175, PBMC; 2:105459317, LOC100506421||Intron 1:8617, PBMC; 2:105459775, LOC100506421||Intron 1:8159, PBMC; 2:106713059, UXS1||Intron 9:42278|Intron 14:97736, PBMC; 2:10830764, NOL10||Proximal Promoter:-652, PBMC; 2:109251064, LIMS1||Intron 1:13363|Intron 1:27448|Intron 1:46143|Intron 1:46308|Intron 1:100254, PBMC; 2:109605518, EDAR||Proximal Promoter:310, PBMC; 2:109746251, LOC100287216||Proximal Promoter:324, SH3RF3||Proximal Promoter:255, PBMC; 2:109746751, 2:109746751, LOC100287216||Proximal Promoter:-176, SH3RF3||Intron 1:755, PBMC; 2:11052558, KCNF1||Proximal Promoter:496, PBMC; 2:110873396, MALL||Exon 1:747, NPHP1||3' Proximal Enhancer:89243, PBMC; 2:110969641, LINC00116||Intron 7:10876, NPHP1||5' Proximal Enhancer:-7002, PBMC; 2:110969853, LINC00116||Exon 7:10664, NPHP1||5' Proximal Enhancer:-7214, PBMC; 2:110970097, LINC00116||Exon 7:10420, NPHP1||5' Proximal Enhancer:-7458, PBMC; 2:112939562, FBLN7||Intron 5:43601, PBMC; 2:112940409, FBLN7||Exon 6:44448, PBMC; 2:112941244, FBLN7||Intron 6:45283, PBMC; 2:113299015, POLR1B||Proximal Promoter:-476, TTL||3' Proximal Enhancer:59273, PBMC; 2:113993142, LOC654433||Proximal Promoter:-703, PAX8||Intron 8:43356, PBMC; 2:113993304, LOC654433||Proximal Promoter:-541, PAX8||Intron 8:43194, PBMC; 2:113993313, LOC654433||Proximal Promoter:-532, PAX8||Intron 8:43185, PBMC; 2:114256781, CBWD2||3' Proximal Enhancer:61514, FOXD4L1||Proximal Promoter:121, PBMC; 2:114261270, CBWD2||3' Proximal Enhancer:66003, FOXD4L1||3' Proximal Enhancer:4610, PBMC; 2:11680020, GREB1||Distal Promoter:-2830|Proximal Promoter:-59|Intron 1:5779, MIR4429||3' Proximal Enhancer:783, PBMC; 2:11888753, LPIN1||Intron 1:2014, PBMC; 2:118980919, PBMC; 2:119614594, EN1||5' Proximal Enhancer:-8835, PBMC; 2:11969958, LPIN1||3' Proximal Enhancer:83219, MIR4262||3' Proximal Enhancer:7154, PBMC; 2:120097181, C2orf76||Intron 3:27077, PBMC; 2:121104187, INHBB||Proximal Promoter:469, PBMC; 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2:139537845, NXPH2||Proximal Promoter:-34, PBMC; 2:139660277, LOC647012||3' Proximal Enhancer:5384, PBMC; 2:140479599, PBMC; 2:144994885, GTDC1||Proximal Promoter:21|Intron 1:57175|Intron 1:95198, PBMC; 2:145086783, GTDC1||Intron 1:3300, PBMC; 2:145226929, ZEB2||Intron 2:51029, PBMC; 2:14772963, FAM84A||Proximal Promoter:154, PBMC; 2:1481492, TPO||Intron 7:63313|Intron 8:64260, PBMC; 2:1484593, TPO||Intron 7:66414|Intron 8:67361, PBMC; 2:149310951, PBMC; 2:150037200, LYPD6B||Intron 3:142220, PBMC; 2:154143677, PBMC; 2:154729622, GALNT13||Intron 1:1197, PBMC; 2:157291262, GPD2||Proximal Promoter:-1637|Proximal Promoter:-702, PBMC; 2:15731646, DDX1||Proximal Promoter:-123, PBMC; 2:159173778, CCDC148||Intron 7:139487, PBMC; 2:159312727, CCDC148||Intron 1:538, PKP4||Proximal Promoter:-748, PBMC; 2:159736477, PBMC; 2:160058036, TANC1||Intron 19:232891, PBMC; 2:160106670, WDSUB1||Intron 9:36393|Intron 9:36433|Intron 9:36566, PBMC; 2:160142643, WDSUB1||Proximal Promoter:420|Proximal Promoter:460|Intron 1:593, PBMC; 2:161209326, RBMS1||Intron 2:140992, PBMC; 2:16151891, PBMC; 2:16154047, PBMC; 2:162281498, TBR1||Exon 6:8879, PBMC; 2:16484904, PBMC; 2:166811308, LOC100506134||3' Proximal Enhancer:20942, TTC21B||Proximal Promoter:-960, PBMC; 2:166930521, SCN1A||Proximal Promoter:-372|Intron 2:75121, PBMC; 2:167350883, SCN7A||5' Proximal Enhancer:-7402, PBMC; 2:167467305, PBMC; 2:167660297, PBMC; 2:16805111, FAM49A||Intron 2:42023, PBMC; 2:16845587, FAM49A||Intron 1:1547, PBMC; 2:170624998, PBMC; 2:170625479, PBMC; 2:171034661, MYO3B||Proximal Promoter:7, PBMC; 2:171676809, GAD1||Intron 2:3610, PBMC; 2:171676925, GAD1||Intron 2:3726, PBMC; 2:171677602, GAD1||Intron 2:4403, PBMC; 2:171943243, TLK1||Intron 2:74167|Intron 2:144581, PBMC; 2:172019979, TLK1||Distal Promoter:-2569|Intron 1:67845, PBMC; 2:172067553, TLK1||Intron 1:20271, PBMC; 2:172953134, DLX1||Exon 3:2927, METAP1D||3' Proximal Enhancer:88331, PBMC; 2:173118470, PBMC; 2:1748112, PXDN||Proximal Promoter:179, PBMC; 2:1748132, PXDN||Proximal Promoter:159, PBMC; 2:174913188, PBMC; 2:175480993, WIPF1||Intron 1:18314|Intron 1:66634, PBMC; 2:176933286, PBMC; 2:176933407, PBMC; 2:176936377, EVX2||3' Proximal

Enhancer:12313, PBMC; 2:176936397, EVX2||3' Proximal Enhancer:12293, PBMC; 2:176936436, EVX2||3' Proximal Enhancer:12254, PBMC; 2:176948596, EVX2||Proximal Promoter:94, HOXD13||5' Proximal Enhancer:-8935, PBMC; 2:176948732, EVX2||Proximal Promoter:-42, HOXD13||5' Proximal Enhancer:-8799, PBMC; 2:176952930, EVX2||Distal Promoter:-4240, HOXD13||Distal Promoter:-4601, PBMC; 2:176972068, HOXD10||5' Proximal Enhancer:-9423, HOXD11||Proximal Promoter:-15, PBMC; 2:176980998, HOXD10||Proximal Promoter:-493, HOXD11||3' Proximal Enhancer:8915, PBMC; 2:176994365, HOXD10||3' Proximal Enhancer:12874, HOXD8||Proximal Promoter:-102|Proximal Promoter:-56, PBMC; 2:176994448, HOXD10||3' Proximal Enhancer:12957, HOXD8||Proximal Promoter:-19|Proximal Promoter:27, PBMC; 2:177014966, HOXD4||Proximal Promoter:-1146, MIR10B||Proximal Promoter:-64, PBMC; 2:177016619, HOXD4||Exon 1:507, MIR10B||3' Proximal Enhancer:1589, PBMC; 2:177053285, HOXD1||Proximal Promoter:-21, LOC401022||Proximal Promoter:401, PBMC; 2:177053292, HOXD1||Proximal Promoter:-14, LOC401022||Proximal Promoter:394, PBMC; 2:177053295, HOXD1||Proximal Promoter:-11, LOC401022||Proximal Promoter:391, PBMC; 2:1771408, PBMC; 2:178853377, PBMC; 2:179056976, OSBPL6||Proximal Promoter:-2231, PBMC; 2:179314738, DFNB59||Proximal Promoter:-1424, MIR548N||Intron 3:67934, PBMC; 2:18063316, KCNS3||Intron 1:3372, PBMC; 2:181467187, PBMC; 2:181987552, PBMC; 2:189157042, GULP1||Proximal Promoter:-347|Intron 1:647, MIR561||5' Proximal Enhancer:-5176, PBMC; 2:191875807, STAT1||Intron 2:3169, PBMC; 2:191883483, STAT1||Distal Promoter:-4507, PBMC; 2:193058628, TMEFF2||Intron 1:1016, PBMC; 2:198243396, PBMC; 2:198492976, RFTN2||Intron 5:47608, PBMC; 2:200326591, FLJ32063||5' Proximal Enhancer:-6229, SATB2||Distal Promoter:-3772|Intron 1:3240|Intron 1:9398, PBMC; 2:201042953, PBMC; 2:201170806, SPATS2L||Proximal Promoter:-549|Proximal Promoter:-178|Proximal Promoter:203, PBMC; 2:201170809, SPATS2L||Proximal Promoter:-546|Proximal Promoter:-175|Proximal Promoter:206, PBMC; 2:201346210, KCTD18||3' Proximal Enhancer:28582, SPATS2L||Exon 13:174855|Exon 13:175226|Exon 13:175607, PBMC; 2:201726139, CLK1||Exon 3:3145|Exon 3:3328, PPIL3||3' Proximal Enhancer:27710, PBMC; 2:202507231, MPP4||3' Proximal Enhancer:56186, TMEM237||Proximal Promoter:179|Intron 1:993, PBMC; 2:203032110, PBMC; 2:204569955, CD28||Proximal Promoter:-1242, PBMC; 2:204570067, CD28||Proximal Promoter:-1130, PBMC; 2:207803547, CPO||Proximal Promoter:-730, PBMC; 2:208541770, PBMC; 2:20869434, GDF7||Intron 1:3011, PBMC; 2:20870087, GDF7||Intron 1:3664, PBMC; 2:20870211, GDF7||Intron 1:3788, PBMC; 2:20870362, GDF7||Exon 2:3939, PBMC; 2:20871002, GDF7||Exon 2:4579, PBMC; 2:20871279, GDF7||3' Proximal Enhancer:4856, PBMC; 2:20871401, GDF7||3' Proximal Enhancer:4978, PBMC; 2:209010890, CRYGB||Proximal Promoter:-13, PBMC; 2:209128590, IDH1||5' Proximal Enhancer:-8784, PIKFYVE||Proximal Promoter:-2400, PBMC; 2:2119533, 2:2119533, MYT1L||Intron 3:215512, PBMC; 2:21266727, APOB||Proximal Promoter:218, PBMC; 2:216882347, MREG||Distal Promoter:-4001, PBMC; 2:218898668, RUFY4||Proximal Promoter:-988, PBMC; 2:219153935, PNKD||Intron 2:18821, TMBIM1||Intron 1:3345, PBMC; 2:219229146, C2orf62||Intron 6:7568, PBMC; 2:219738714, WNT10A||5' Proximal Enhancer:-6540, WNT6||Exon 4:14169, PBMC; 2:219738732, WNT10A||5' Proximal Enhancer:-6522, WNT6||Exon 4:14187, PBMC; 2:219826870, CDK5R2||Exon 1:2473, PBMC; 2:219857231, CRYBA2||Intron 2:890|Intron 2:896, FEV||5' Proximal Enhancer:-6852, PBMC; 2:220083916, ABCB6||Proximal Promoter:-204, ATG9A||3' Proximal Enhancer:10445, PBMC; 2:220083951, ABCB6||Proximal Promoter:-239, ATG9A||3' Proximal Enhancer:10410, PBMC; 2:220115026, GLB1L||Distal Promoter:-4895, STK16||Exon 8:4826|Exon 8:4835, PBMC; 2:220223283, PBMC; 2:224813276, MRPL44||5' Proximal Enhancer:-8844, WDFY1||Distal Promoter:-3224, PBMC; 2:225384862, CUL3||Intron 3:65248, PBMC; 2:226913713, PBMC; 2:227700114, RHBDD1||Proximal Promoter:-556, PBMC; 2:231715028, PBMC; 2:231742734, ITM2C||Exon 6:13114, LOC151484||5' Proximal Enhancer:-8526, PBMC; 2:231989146, HTR2B||Intron 1:678, PSMD1||Intron 16:67569, PBMC; 2:232379626, LINC00471||Proximal Promoter:-576, NMUR1||3' Proximal Enhancer:15556, PBMC; 2:232379665, LINC00471||Proximal Promoter:-615, NMUR1||3' Proximal Enhancer:15517, PBMC; 2:233246431, ALPP||Exon 11:3084, ECEL1P2||3' Proximal Enhancer:5323, PBMC; 2:233501753, EFHD1||Intron 1:3547|Intron 1:30987, PBMC; 2:233925165, INPP5D||Proximal Promoter:130, PBMC; 2:234157746, ATG16L1||Proximal Promoter:-2470, PBMC; 2:234847769, TRPM8||Exon 5:21727, PBMC; 2:234934131, TRPM8||3' Proximal Enhancer:108089, PBMC; 2:235406291, ARL4C||Proximal Promoter:-598, PBMC; 2:236044744, PBMC; 2:236514471, AGAP1||Intron 1:111739, PBMC; 2:236579469, AGAP1||Intron 1:176737, PBMC; 2:237076164, GBX2||Proximal Promoter:488, PBMC; 2:237076171, GBX2||Proximal Promoter:481, PBMC; 2:237076306, GBX2||Proximal Promoter:346, PBMC; 2:237076497, GBX2||Proximal Promoter:155, PBMC; 2:237076811, GBX2||Proximal Promoter:-159, PBMC; 2:237082073, GBX2||5' Proximal Enhancer:-5421, PBMC; 2:23840282, KLHL29||Intron 3:231985, PBMC; 2:238578376, LRRFIP1||Intron 1:42153, PBMC; 2:239139911, HES6||3' Proximal Enhancer:8770,

LOC151174||Proximal Promoter:407, PBMC; 2:239140024, HES6||3' Proximal Enhancer:8657, LOC151174||Proximal Promoter:294, PBMC; 2:239140032, HES6||3' Proximal Enhancer:8649, LOC151174||Proximal Promoter:286, PBMC; 2:239140182, HES6||3' Proximal Enhancer:8499, LOC151174||Proximal Promoter:136, PBMC; 2:239140190, HES6||3' Proximal Enhancer:8491, LOC151174||Proximal Promoter:128, PBMC; 2:239140485, HES6||3' Proximal Enhancer:8196, LOC151174||Proximal Promoter:-167, PBMC; 2:239149859, HES6||Proximal Promoter:-1178, LOC151174||5' Proximal Enhancer:-9541, PBMC; 2:240153778, PBMC; 2:240282934, MIR2467||5' Proximal Enhancer:-9435, PBMC; 2:240291509, PBMC; 2:240291657, PBMC; 2:240313602, PBMC; 2:241034966, PBMC; 2:241393833, GPC1||Intron 1:18719, MIR149||Proximal Promoter:-1584, PBMC; 2:241497412, ANKMY1||Proximal Promoter:-7, DUSP28||Proximal Promoter:-2058, PBMC; 2:241562650, 2:241562650, GPR35||Intron 5:17826|Proximal Promoter:-2011, PBMC; 2:241562757, GPR35||Proximal Promoter:-1904|Intron 5:17933, PBMC; 2:241612327, AQP12B||3' Proximal Enhancer:9990, PBMC; 2:241896910, LOC200772||Exon 6:9958, PBMC; 2:241975140, SNED1||Intron 4:36886, PBMC; 2:241975756, SNED1||Intron 4:37502, PBMC; 2:241975971, SNED1||Intron 4:37717, PBMC; 2:242048359, MTERFD2||5' Proximal Enhancer:-6612, PASK||Intron 15:40560|Intron 16:41035, PBMC; 2:242147702, ANO7||Intron 11:19779, PBMC; 2:242248764, HDLBP||Intron 1:6351, SEPT2||5' Proximal Enhancer:-6516|5' Proximal Enhancer:-5958, PBMC; 2:242702553, D2HGDH||Intron 9:28524, PBMC; 2:242702881, D2HGDH||Intron 9:28852, PBMC; 2:242813914, CXXC11||Exon 2:2029, PBMC; 2:242927580, PBMC; 2:24552676, ITSN2||Intron 1:30721, PBMC; 2:25473781, DNMT3A||Intron 1:1399|Intron 6:90993|Intron 6:91678, PBMC; 2:25475726, DNMT3A||Proximal Promoter:-546|Intron 6:89048|Intron 6:89733, PBMC; 2:25500046, DNMT3A||Intron 4:64728|Intron 4:65413, PBMC; 2:25563526, PBMC; 2:26916575, KCNK3||Intron 1:995, PBMC; 2:2757161, PBMC; 2:28973577, PPP1CB||Proximal Promoter:-1048|Proximal Promoter:-1036, PBMC; 2:30669597, LCLAT1||Proximal Promoter:-539|Proximal Promoter:-525, PBMC; 2:30669759, LCLAT1||Proximal Promoter:-377|Proximal Promoter:-363, PBMC; 2:30669863, LCLAT1||Proximal Promoter:-273|Proximal Promoter:-259, PBMC; 2:30669952, LCLAT1||Proximal Promoter:-184|Proximal Promoter:-170, PBMC; 2:31806234, SRD5A2||Proximal Promoter:-194, PBMC; 2:3699195, ALLC||5' Proximal Enhancer:-6590, COLEC11||3' Proximal Enhancer:45554|3' Proximal Enhancer:49700|3' Proximal Enhancer:56774, PBMC; 2:3753297, ALLC||3' Proximal Enhancer:47512, PBMC; 2:394115, PBMC; 2:40739771, SLC8A1||Proximal Promoter:-196, PBMC; 2:42275740, PKDCC||Exon 1:580, PBMC; 2:42399049, EML4||Intron 1:2560, PBMC; 2:43023945, HAAO||Distal Promoter:-4194, PBMC; 2:43027940, HAAO||5' Proximal Enhancer:-8189, PBMC; 2:43903470, LOC728819||Proximal Promoter:-9, PLEKHH2||Intron 2:39032, PBMC; 2:43903526, LOC728819||Proximal Promoter:-65, PLEKHH2||Intron 2:39088, PBMC; 2:43904011, LOC728819||Proximal Promoter:-550, PLEKHH2||Intron 2:39573, PBMC; 2:45156937, PBMC; 2:45159972, SIX3||5' Proximal Enhancer:-9064, PBMC; 2:45160445, SIX3||5' Proximal Enhancer:-8591, PBMC; 2:45176551, SIX3||3' Proximal Enhancer:7515, PBMC; 2:45180560, SIX3||3' Proximal Enhancer:11524, PBMC; 2:45398292, UNQ6975||3' Proximal Enhancer:83788, PBMC; 2:45398381, UNQ6975||3' Proximal Enhancer:83699, PBMC; 2:45538072, PBMC; 2:46465, FAM110C||Proximal Promoter:123, PBMC; 2:46556344, EPAS1||Intron 1:31804, PBMC; 2:46925333, SOCS5||Proximal Promoter:-1015|Proximal Promoter:-765, PBMC; 2:47171414, MCFD2||Proximal Promoter:-2420, TTC7A||Intron 1:3102, PBMC; 2:51259693, NRXN1||Proximal Promoter:-19, PBMC; 2:51260003, NRXN1||Proximal Promoter:-329, PBMC; 2:54789491, SPTBN1||Intron 1:3961, PBMC; 2:54823768, SPTBN1||Intron 1:38238, PBMC; 2:54900998, PBMC; 2:5605864, PBMC; 2:5836181, 2:5836181, SOX11||Exon 1:3383, PBMC; 2:5836231, SOX11||Exon 1:3433, PBMC; 2:62732892, TMEM17||Intron 1:712, PBMC; 2:62857522, PBMC; 2:629022, PBMC; 2:64245000, VPS54||Intron 1:1214, PBMC; 2:64955034, PBMC; 2:65258738, SLC1A4||3' Proximal Enhancer:42244|3' Proximal Enhancer:43160, PBMC; 2:65355269, RAB1A||Intron 1:2166, PBMC; 2:662887, TMEM18||3' Proximal Enhancer:14552, PBMC; 2:68592345, PLEK||Proximal Promoter:24, PBMC; 2:68592349, PLEK||Proximal Promoter:28, PBMC; 2:68592375, PLEK||Proximal Promoter:54, PBMC; 2:68592394, PLEK||Proximal Promoter:73, PBMC; 2:68592737, PLEK||Proximal Promoter:416, PBMC; 2:68917482, PBMC; 2:68961495, ARHGAP25||Proximal Promoter:-417, PBMC; 2:68961597, ARHGAP25||Proximal Promoter:-315, PBMC; 2:6910518, LINC00487||Proximal Promoter:-76, PBMC; 2:69152678, PBMC; 2:69440951, PBMC; 2:69812277, PBMC; 2:69867834, PBMC; 2:7004578, CMPK2||Intron 1:1358, PBMC; 2:7018020, RSAD2||Proximal Promoter:225, PBMC; 2:7018153, RSAD2||Proximal Promoter:358, PBMC; 2:70319121, PCBP1||3' Proximal Enhancer:4537, PCBP1-AS1||Distal Promoter:-4974, PBMC; 2:71033156, CLEC4F||3' Proximal Enhancer:14576, PBMC; 2:71409816, PAIP2B||3' Proximal Enhancer:44417, PBMC; 2:716366, PBMC; 2:71693165, DYSF||Proximal Promoter:-666|Intron 1:12413, PBMC; 2:71787431, DYSF||Intron 23:93600|Intron 23:106679, PBMC; 2:72079609, PBMC;

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2:86948810, RMND5A||Intron 1:1397, PBMC; 2:89065379, ANKRD36BP2||Proximal Promoter:-39, PBMC; 2:9235898, PBMC; 2:9409242, ASAP2||Intron 1:62349, PBMC; 2:95537314, LOC442028||Intron 9:75773, TEKT4||Proximal Promoter:83, PBMC; 2:95537405, LOC442028||Intron 9:75682, TEKT4||Proximal Promoter:174, PBMC; 2:96012595, KCNIP3||Proximal Promoter:-172|Intron 2:49524, PBMC; 2:9614225, CPSF3||3' Proximal Enhancer:50358, IAH1||Proximal Promoter:-444, PBMC; 2:96812528, ASTL||5' Proximal Enhancer:-8353, DUSP2||Proximal Promoter:-1349, PBMC; 2:96868790, STARD7||Intron 1:5783, PBMC; 2:9878816, PBMC; 2:99351550, MGAT4A||Distal Promoter:-3961, PBMC; 2:99439533, C2orf55||Exon 7:113151, PBMC; 2:99771011, C2orf15||3' Proximal Enhancer:12827, LIPT1||Proximal Promoter:-525|Proximal Promoter:-406, PBMC; 3:101406220, LOC100009676||3' Proximal Enhancer:10947, RPL24||Proximal Promoter:-657, PBMC; 3:101659630, LOC152225||Proximal Promoter:-72, PBMC; 3:10187579, 3:10187579, VHL||Intron 1:4261, PBMC; 3:105072537, PBMC; 3:105588068, CBLB||Proximal Promoter:-181, PBMC; 3:105601834, PBMC; 3:10670103, PBMC; 3:107416718, BBX||Intron 3:174936, PBMC; 3:10749977, PBMC; 3:109537321, PBMC; 3:11034345, SLC6A1||Proximal Promoter:-74, PBMC; 3:11034749, SLC6A1||Proximal Promoter:330, PBMC; 3:111718062, ABHD10||3' Proximal Enhancer:20235, TAGLN3||Proximal Promoter:56|Proximal Promoter:477, PBMC; 3:112218761, BTLA||Proximal Promoter:-353, PBMC; 3:112693867, CD200R1||Proximal Promoter:70, PBMC; 3:112694062, CD200R1||Proximal Promoter:-125, PBMC; 3:112959879, BOC||Intron 2:28505, PBMC; 3:115376349, GAP43||Intron 1:34199, PBMC; 3:117516743, PBMC; 3:119243933, CD80||Exon 7:34548, TIMMDC1||3' Proximal Enhancer:26566, PBMC; 3:119299162, ADPRH||Intron 1:640, PBMC; 3:119422161, C3orf15||Proximal Promoter:293, PBMC; 3:120151283, PBMC; 3:121553821, EAF2||Proximal Promoter:-212, IQCB1||Proximal Promoter:105, PBMC; 3:121714668, ILDR1||Intron 5:26459, PBMC; 3:122281881, DTX3L||Proximal Promoter:-1303, PARP9||Intron 1:1266|Intron 1:1313|Intron 1:1642, PBMC; 3:122281939, DTX3L||Proximal Promoter:-1245, PARP9||Intron 1:1208|Intron 1:1255|Intron 1:1584, PBMC; 3:122281975, DTX3L||Proximal Promoter:-1209, PARP9||Intron 1:1172|Intron 1:1219|Intron 1:1548, PBMC; 3:122284215, DTX3L||Intron 1:1031, PARP9||Proximal Promoter:-1068|Proximal Promoter:-1021|Proximal Promoter:-692, PBMC; 3:122400474, PARP14||Intron 1:803, PBMC; 3:122694286, SEMA5B||Intron 1:52290, PBMC; 3:125677281, PBMC; 3:12595473, LOC100129480||5' Proximal Enhancer:-8510, MKRN2||Distal Promoter:-3120, PBMC; 3:12597720, MKRN2||Proximal Promoter:-873, PBMC; 3:126243061, CHST13||Proximal Promoter:-69, UROC1||5' Proximal Enhancer:-6445, PBMC; 3:126422536, CHCHD6||Proximal Promoter:-581, PBMC; 3:127473755, MGLL||Intron 3:67946|Intron 3:68296, PBMC; 3:128719999, CCDC48||Proximal Promoter:-472, KIAA1257||5' Proximal Enhancer:-7013, PBMC; 3:128745637, CCDC48||Intron 2:25166, PBMC; 3:128997295, C3orf37||Proximal Promoter:-521|Proximal Promoter:-388, COPG||3' Proximal Enhancer:28843, PBMC; 3:129160135, IFT122||Intron 1:1168, MBD4||Proximal Promoter:-1283, PBMC; 3:129160154, IFT122||Intron 1:1187, MBD4||Proximal Promoter:-1302, PBMC; 3:13008273, IQSEC1||Intron 1:687|Intron 1:106344, PBMC; 3:130466871, PIK3R4||Proximal Promoter:-1175, PBMC; 3:130467068, PIK3R4||Proximal Promoter:-1372, PBMC; 3:131080391, LOC339874||Intron 2:19928, NUDT16P1||Proximal Promoter:-326|Proximal Promoter:-297, PBMC; 3:131515563, CPNE4||Intron 2:238281, PBMC; 3:131756545, CPNE4||Distal Promoter:-2701, PBMC; 3:134512480, EPHB1||Proximal Promoter:-1618, PBMC; 3:13462496, NUP210||Proximal Promoter:-687, PBMC; 3:13462903, NUP210||Proximal Promoter:-1094, PBMC; 3:13555664, 3:13555664, HDAC11||3' Proximal Enhancer:33821|3' Proximal Enhancer:33950, PBMC; 3:137187558, PBMC; 3:13922426, WNT7A||Proximal Promoter:-808, PBMC; 3:140229290, CLSTN2||Intron 8:575264, PBMC; 3:141122632, ZBTB38||Intron 6:79578, PBMC; 3:14289162, PBMC; 3:14466411, SLC6A6||Intron 2:22306, PBMC; 3:145790097, PLOD2||Intron 17:89185, PBMC; 3:146187037, PLSCR2||Proximal Promoter:51|Intron 1:26741, PBMC; 3:146187126, PLSCR2||Proximal Promoter:-38|Intron 1:26652, PBMC; 3:147127898, ZIC1||Exon 1:718, ZIC4||5' Proximal Enhancer:-5827|Distal Promoter:-4591|Distal Promoter:-3302, PBMC; 3:149374763,

WWTR1||Exon 2:1049|Exon 2:1125|Exon 3:46297, WWTR1-AS1||Proximal Promoter:-1233, PBMC; 3:149421196, PBMC; 3:15311183, SH3BP5||Intron 4:62921|Intron 4:71718, PBMC; 3:15311269, SH3BP5||Exon 4:62835|Exon 4:71632, PBMC; 3:153501841, PBMC; 3:156324038, PBMC; 3:156848265, PBMC; 3:15751015, ANKRD28||Intron 11:47043|Intron 13:88676|Intron 13:150038, PBMC; 3:157815145, SHOX2||Exon 6:8807, PBMC; 3:158390671, GFM1||Intron 13:28355, LXN||Proximal Promoter:-189, PBMC; 3:158450251, RARRES1||Proximal Promoter:24, PBMC; 3:160121821, IFT80||Distal Promoter:-4501, MIR15B||Proximal Promoter:-554, PBMC; 3:160122168, IFT80||Distal Promoter:-4848, MIR15B||Proximal Promoter:-207, PBMC; 3:160122503, IFT80||5' Proximal Enhancer:-5183, MIR15B||Proximal Promoter:128, PBMC; 3:160167990, TRIM59||Proximal Promoter:-364, PBMC; 3:160281681, PBMC; 3:16331335, OXNAD1||Intron 5:24669, PBMC; 3:16420793, RFTN1||Intron 4:134429, PBMC; 3:164912187, SLITRK3||Intron 1:2282, PBMC; 3:169531864, LRRC34||Proximal Promoter:-1290, LRRIQ4||5' Proximal Enhancer:-7845, PBMC; 3:169684056, LOC100128164||Proximal Promoter:466, SEC62||Proximal Promoter:-523, PBMC; 3:170074131, SKIL||Distal Promoter:-3279|Proximal Promoter:-1341, PBMC; 3:170136920, CLDN11||Proximal Promoter:-2107|Proximal Promoter:268, PBMC; 3:170303721, SLC7A14||Proximal Promoter:142, PBMC; 3:173113856, NLGN1||Proximal Promoter:-2387, PBMC; 3:174092757, PBMC; 3:180546915, PBMC; 3:183236384, KLHL6||Intron 2:37115, PBMC; 3:183543862, MAP6D1||Proximal Promoter:-469, PARL||3' Proximal Enhancer:58831, PBMC; 3:184409746, PBMC; 3:185080356, MAP3K13||Proximal Promoter:-479|Intron 2:79628, PBMC; 3:185656255, TRA2B||Proximal Promoter:-331, PBMC; 3:185960440, DGKG||Intron 19:119583, PBMC; 3:187389415, SST||Proximal Promoter:-1214, PBMC; 3:191781581, PBMC; 3:193587490, PBMC; 3:193629645, PBMC; 3:193925556, PBMC; 3:194030706, LOC100131551||Proximal Promoter:-113, PBMC; 3:194091167, LRRC15||Proximal Promoter:-695, PBMC; 3:194361833, LSG1||Exon 14:31373, TMEM44||5' Proximal Enhancer:-7683, PBMC; 3:194790434, XXYLT1||Exon 4:201461, PBMC; 3:194800853, XXYLT1||Intron 3:191042, PBMC; 3:195395398, 3:195395398, SDHAP2||Exon 7:10489, PBMC; 3:195632915, TNK2||Intron 1:2965, PBMC; 3:196325552, FBXO45||3' Proximal Enhancer:29828, PBMC; 3:196695320, PIGZ||Proximal Promoter:384, PBMC; 3:197272328, BDH1||Intron 3:10530|Intron 2:27866, PBMC; 3:22413232, PBMC; 3:22422855, PBMC; 3:238611, CHL1||Proximal Promoter:-714|Proximal Promoter:333, PBMC; 3:238615, CHL1||Proximal Promoter:-710|Proximal Promoter:337, PBMC; 3:238618, CHL1||Proximal Promoter:-707|Proximal Promoter:340, PBMC; 3:27208620, PBMC; 3:27761408, EOMES||Intron 2:2377, PBMC; 3:27761503, EOMES||Intron 2:2282, PBMC; 3:27761677, EOMES||Exon 2:2108, PBMC; 3:27766382, EOMES||Distal Promoter:-2597, PBMC; 3:28617854, LOC645206||Exon 2:1086, PBMC; 3:29197502, PBMC; 3:31014814, PBMC; 3:31494586, PBMC; 3:33340829, FBXL2||Intron 2:21893|Intron 2:21896, PBMC; 3:33484959, UBP1||Distal Promoter:-3089|Distal Promoter:-3062, PBMC; 3:36675685, PBMC; 3:39321449, CX3CR1||Proximal Promoter:78|Proximal Promoter:481|Intron 1:1315|Intron 1:1777, PBMC; 3:39543515, MOBP||Intron 2:34446, PBMC; 3:39543776, MOBP||Intron 3:34707, PBMC; 3:39543967, MOBP||Intron 3:34898, PBMC; 3:39544192, MOBP||Intron 3:35123, PBMC; 3:43465503, ANO10||Intron 12:198057, PBMC; 3:44040539, PBMC; 3:44100380, PBMC; 3:44802604, KIAA1143||Intron 1:569, KIF15||Proximal Promoter:-604, PBMC; 3:44803129, KIAA1143||Proximal Promoter:44, KIF15||Proximal Promoter:-79, PBMC; 3:45429626, LARS2||Proximal Promoter:-448, PBMC; 3:45429742, LARS2||Proximal Promoter:-332, PBMC; 3:45637978, LIMD1||Intron 1:1656, PBMC; 3:45932141, CCR9||Intron 1:4146, PBMC; 3:46394550, 3:46394550, CCR2||Proximal Promoter:-684, PBMC; 3:46395191, CCR2||Proximal Promoter:-43, PBMC; 3:46395356, CCR2||Proximal Promoter:122, PBMC; 3:46449313, CCRL2||Proximal Promoter:265|Intron 1:593, PBMC; 3:47517807, SCAP||Proximal Promoter:-362, PBMC; 3:48315011, ZNF589||3' Proximal Enhancer:32416, PBMC; 3:49058272, DALRD3||Proximal Promoter:-2255|Proximal Promoter:195, IMPDH2||3' Proximal Enhancer:8603, PBMC; 3:49203081, CCDC71||Intron 1:704, KLHDC8B||5' Proximal Enhancer:-5936, PBMC; 3:49697458, BSN||Intron 5:105537, PBMC; 3:5018700, BHLHE40||Proximal Promoter:-2396, PBMC; 3:5018860, BHLHE40||Proximal Promoter:-2236, PBMC; 3:5023394, BHLHE40||Intron 4:2298, PBMC; 3:50311211, C3orf45||5' Proximal Enhancer:-5306, SEMA3B||Exon 10:6172, PBMC; 3:50311213, C3orf45||5' Proximal Enhancer:-5304, SEMA3B||Exon 10:6174, PBMC; 3:50376000, NPRL2||3' Proximal Enhancer:12486, RASSF1||Proximal Promoter:-1105|Proximal Promoter:-336|Intron 1:2367, PBMC; 3:50376475, NPRL2||3' Proximal Enhancer:12011, RASSF1||Proximal Promoter:-1580|Proximal Promoter:-811|Intron 1:1892, PBMC; 3:51704351, RAD54L2||3' Proximal Enhancer:128756, TEX264||Proximal Promoter:-938|Proximal Promoter:-870, PBMC; 3:51807783, IQCF6||3' Proximal Enhancer:5420, PBMC; 3:52038371, RPL29||5' Proximal Enhancer:-8413, PBMC; 3:52869263, ITIH4||Distal Promoter:-4546, MUSTN1||Proximal Promoter:-28, PBMC; 3:53286651, TKT||Intron 1:3479, PBMC; 3:53700276, CACNA1D||Intron 6:171246, PBMC; 3:56789178, ARHGEF3||Exon 3:20567|Exon 3:46817|Exon

6:324158, PBMC; 3:58570828, FAM107A||5' Proximal Enhancer:-7337, PBMC; 3:58570898, FAM107A||5' Proximal Enhancer:-7407, PBMC; 3:60420416, FHIT||Intron 5:816717, PBMC; 3:62861055, CADPS||Proximal Promoter:9, PBMC; 3:62861631, CADPS||Proximal Promoter:-567, PBMC; 3:66023157, MAGI1||Intron 1:1352, PBMC; 3:66102345, PBMC; 3:66548117, LRIG1||Intron 1:2728, PBMC; 3:66549732, LRIG1||Intron 1:1113, PBMC; 3:66848608, PBMC; 3:66848765, PBMC; 3:71115714, FOXP1||Proximal Promoter:-1640|Intron 2:64378|Intron 3:178602|Intron 4:238197|Intron 6:476994|Intron 7:517190|Intron 7:517426, PBMC; 3:71178485, FOXP1||Intron 1:1607|Intron 2:115831|Intron 3:175426|Intron 5:414223|Intron 6:454419|Intron 6:454655, PBMC; 3:71834222, PROK2||Proximal Promoter:135, PBMC; 3:72424982, RYBP||Exon 4:70792, PBMC; 3:73045440, PPP4R2||Proximal Promoter:-678, PBMC; 3:73674160, PDZRN3||Proximal Promoter:-88, PBMC; 3:73723546, PBMC; 3:8685827, C3orf32||Intron 1:7910, PBMC; 3:97887864, OR5H15||Proximal Promoter:321, PBMC; 3:9852352, ARPC4||3' Proximal Enhancer:17552|3' Proximal Enhancer:18121|3' Proximal Enhancer:18174, ARPC4-TTLL3||Intron 4:18121, PBMC; 4:10147302, PBMC; 4:104918078, PBMC; 4:105412800, CXXC4||Exon 2:3258, PBMC; 4:1062280, RNF212||3' Proximal Enhancer:45072, PBMC; 4:107434718, PBMC; 4:110358288, 1/2-SBSRNA4||Distal Promoter:-3315, SEC24B||Intron 1:3318, PBMC; 4:110524473, 4:110524473, CCDC109B||Intron 1:43119, PBMC; 4:11430693, HS3ST1||Proximal Promoter:-156, PBMC; 4:11430698, HS3ST1||Proximal Promoter:-161, PBMC; 4:11430717, HS3ST1||Proximal Promoter:-180, PBMC; 4:11430724, HS3ST1||Proximal Promoter:-187, PBMC; 4:114823338, ARSJ||Exon 2:77540, PBMC; 4:115416755, PBMC; 4:1188186, LOC100130872||3' Proximal Enhancer:14564, SPON2||Intron 1:14564, PBMC; 4:119512985, PBMC; 4:119990940, SYNPO2||3' Proximal Enhancer:180945, PBMC; 4:122078167, TNIP3||Intron 4:7328|Intron 7:59615|Intron 7:70454, PBMC; 4:122301573, QRFPR||Exon 1:608, PBMC; 4:122615133, ANXA5||Intron 2:3014, PBMC; 4:122687481, PP12613||Exon 1:1742, TMEM155||Proximal Promoter:-1141, PBMC; 4:124232, ZNF718||Intron 3:70956, PBMC; 4:124693, ZNF718||Intron 3:71417, PBMC; 4:129212177, PGRMC2||Proximal Promoter:-2193, PBMC; 4:132661961, PBMC; 4:132896736, PBMC; 4:134589655, PBMC; 4:1400189, PBMC; 4:140616131, MGST2||Intron 2:29210, PBMC; 4:143488622, INPP4B||Intron 2:278982, PBMC; 4:144621385, FREM3||Proximal Promoter:443, PBMC; 4:145038318, GYPA||Intron 4:23586, PBMC; 4:145566595, HHIP||Proximal Promoter:-552, LOC646576||Intron 1:576, PBMC; 4:146267385, PBMC; 4:146656680, C4orf51||3' Proximal Enhancer:55325, PBMC; 4:146857013, ZNF827||Intron 1:2594, PBMC; 4:147576227, PBMC; 4:148663146, ARHGAP10||Intron 1:9694, PBMC; 4:149369175, NR3C2||5' Proximal Enhancer:-5503, PBMC; 4:1523326, PBMC; 4:154073501, TRIM2||Proximal Promoter:-768, PBMC; 4:15429967, C1QTNF7||Proximal Promoter:339|Intron 1:53793|Intron 1:88408, PBMC; 4:155413789, DCHS2||Proximal Promoter:-912|Proximal Promoter:-859, PBMC; 4:155548532, PBMC; 4:15655683, FBXL5||Intron 1:1352, PBMC; 4:157892489, PDGFC||Proximal Promoter:57, PBMC; 4:157892765, PDGFC||Proximal Promoter:-219, PBMC; 4:1580377, PBMC; 4:158141542, GRIA2||Proximal Promoter:-277|Proximal Promoter:-193, PBMC; 4:159707693, FNIP2||Intron 1:17512, PBMC; 4:1607291, PBMC; 4:16085401, PROM1||5' Proximal Enhancer:-7660|Proximal Promoter:193|Proximal Promoter:222, PBMC; 4:162446260, FSTL5||Intron 10:638926, PBMC; 4:165898835, PBMC; 4:167021679, TLL1||Intron 20:227270, PBMC; 4:169239131, DDX60||Intron 1:827, PBMC; 4:169770092, PALLD||Intron 1:16937|Intron 9:217325|Intron 10:351876, PBMC; 4:170696239, PBMC; 4:171011099, AADAT||Proximal Promoter:84|Proximal Promoter:273, PBMC; 4:172734431, GALNTL6||Proximal Promoter:-143, PBMC; 4:174186068, 4:174186068, GALNT7||Intron 2:96165, PBMC; 4:174453166, HAND2||Proximal Promoter:-1788, NBLA00301||Intron 2:1558, PBMC; 4:17488243, QDPR||Exon 7:25614, PBMC; 4:175444482, HPGD||Proximal Promoter:-690|Proximal Promoter:-438, PBMC; 4:176711190, GPM6A||Intron 1:22992|Intron 2:212458, PBMC; 4:176983371, 4:176983371, WDR17||Distal Promoter:-3613, PBMC; 4:176987009, WDR17||Proximal Promoter:25, PBMC; 4:178518017, PBMC; 4:184642917, TRAPPC11||3' Proximal Enhancer:62498, PBMC; 4:184644613, TRAPPC11||3' Proximal Enhancer:64194, PBMC; 4:185018478, ENPP6||Exon 7:120636, PBMC; 4:185305932, IRF2||3' Proximal Enhancer:89794, PBMC; 4:186457012, PDLIM3||Proximal Promoter:-300, PBMC; 4:1874366, WHSC1||Intron 1:1244, PBMC; 4:187476837, MTNR1A||Proximal Promoter:-300, PBMC; 4:187644739, FAT1||Proximal Promoter:248, PBMC; 4:187645118, FAT1||Proximal Promoter:-131, PBMC; 4:187645144, FAT1||Proximal Promoter:-157, PBMC; 4:187884368, PBMC; 4:188190184, PBMC; 4:188916668, ZFP42||Proximal Promoter:-256, PBMC; 4:188916865, ZFP42||Proximal Promoter:-59, PBMC; 4:188916867, ZFP42||Proximal Promoter:-57, PBMC; 4:188916875, ZFP42||Proximal Promoter:-49, PBMC; 4:189359992, PBMC; 4:189376704, LOC401164||Proximal Promoter:-27, PBMC; 4:190236439, PBMC; 4:20256326, SLIT2||Intron 1:1092, PBMC; 4:20257590, SLIT2||Intron 1:2356, PBMC; 4:204382, ZNF876P||Proximal Promoter:-2006, PBMC; 4:2322078, ZFYVE28||Intron 6:44526|Intron 6:98292, PBMC; 4:23457637, MIR548AJ2||Intron 1:7089, PBMC; 4:23936764, PBMC; 4:24913973, CCDC149||Intron 1:627|Intron 1:67853, PBMC; 4:299370, ZNF732||5'

Proximal Enhancer:-9426, PBMC; 4:30721997, PCDH7||Proximal Promoter:-39|Proximal Promoter:-32, PBMC; 4:3486116, DOK7||Intron 4:21084, PBMC; 4:3495341, DOK7||Exon 7:30309, LRPAP1||3' Proximal Enhancer:38883, PBMC; 4:37246230, KIAA1239||Proximal Promoter:-459, MIR4801||Distal Promoter:-2617, PBMC; 4:37455485, C4orf19||Proximal Promoter:-66, KIAA1239||3' Proximal Enhancer:208796, PBMC; 4:37455492, C4orf19||Proximal Promoter:-59, KIAA1239||3' Proximal Enhancer:208803, PBMC; 4:3765047, ADRA2C||Distal Promoter:-3248, PBMC; 4:38491918, PBMC; 4:3874006, PBMC; 4:38859339, TLR6||Proximal Promoter:-901, PBMC; 4:38987121, TMEM156||Intron 5:46920, PBMC; 4:39171231, PBMC; 4:39531927, UGDH||Distal Promoter:-2709, PBMC; 4:40267141, PBMC; 4:41754125, PHOX2B||Distal Promoter:-3138, PBMC; 4:4229810, OTOP1||Proximal Promoter:-1189, TMEM128||3' Proximal Enhancer:20124, PBMC; 4:4420864, D4S234E||3' Proximal Enhancer:32882, STX18||Exon 11:122911, PBMC; 4:46391929, GABRA2||Proximal Promoter:-533|Proximal Promoter:127, PBMC; 4:47840011, CORIN||Proximal Promoter:48, NFXL1||3' Proximal Enhancer:76622, PBMC; 4:48045040, NIPAL1||3' Proximal Enhancer:26250, PBMC; 4:48492304, FRYL||3' Proximal Enhancer:290012, SLC10A4||3' Proximal Enhancer:6945, PBMC; 4:4864430, 4:4864430, MSX1||Exon 2:3039, PBMC; 4:4864532, 4:4864532, MSX1||Exon 2:3141, PBMC; 4:4868794, MSX1||3' Proximal Enhancer:7403, PBMC; 4:4873442, MSX1||3' Proximal Enhancer:12051, PBMC; 4:5020292, CYTL1||Intron 1:905, PBMC; 4:5035653, PBMC; 4:52917660, SPATA18||Proximal Promoter:68, PBMC; 4:53757661, SCFD2||Intron 7:474581, PBMC; 4:54457737, LNX1||Proximal Promoter:-13, PBMC; 4:55991683, KDR||Proximal Promoter:79, PBMC; 4:5710337, EVC||Distal Promoter:-2586, EVC2||Proximal Promoter:-43|Intron 1:938, PBMC; 4:5710403, EVC||Distal Promoter:-2520, EVC2||Proximal Promoter:-109|Intron 1:872, PBMC; 4:57547347, HOPX||Intron 1:525, PBMC; 4:57547872, HOPX||Proximal Promoter:0, PBMC; 4:58060773, LOC255130||Intron 2:84846, PBMC; 4:58061859, LOC255130||Intron 2:85932, PBMC; 4:58061991, LOC255130||Intron 2:86064, PBMC; 4:60001000, PBMC; 4:62383028, LPHN3||Intron 1:20190, PBMC; 4:6271139, WFS1||Proximal Promoter:-437, PBMC; 4:648752, PDE6B||Intron 4:1787|Intron 6:29390, PBMC; 4:6660482, PBMC; 4:6665199, PBMC; 4:68265702, PBMC; 4:6912210, TBC1D14||Intron 1:716|Intron 1:1040, PBMC; 4:6929045, TBC1D14||Intron 2:17551|Intron 2:17875, PBMC; 4:69435593, UGT2B17||Proximal Promoter:-1348, PBMC; 4:7195053, SORCS2||Intron 1:680, PBMC; 4:75174204, EPGN||Proximal Promoter:1, MTHFD2L||3' Proximal Enhancer:150376, PBMC; 4:76570006, G3BP2||Exon 12:28337|Exon 12:28661, PBMC; 4:7657303, PBMC; 4:77134471, FAM47E||Proximal Promoter:-721, SCARB2||Intron 1:581, PBMC; 4:7735312, PBMC; 4:7763618, AFAP1||Exon 18:178035, AFAP1-AS1||Intron 1:7802, PBMC; 4:7763703, AFAP1||Exon 18:177950, AFAP1-AS1||Intron 1:7887, PBMC; 4:77723415, PBMC; 4:778924, CPLX1||Exon 4:41021, LOC100129917||Distal Promoter:-3288, PBMC; 4:779173, CPLX1||Exon 4:40772, LOC100129917||Distal Promoter:-3537, PBMC; 4:779230, CPLX1||Exon 4:40715, LOC100129917||Distal Promoter:-3594, PBMC; 4:77933741, SEPT11||Intron 4:62847, PBMC; 4:78852682, 4:78852682, MRPL1||Intron 7:68878, PBMC; 4:7940579, AFAP1||Intron 1:1074, PBMC; 4:8253470, PBMC; 4:8275039, HTRA3||Intron 1:3551, PBMC; 4:83955429, COPS4||Proximal Promoter:-809, PBMC; 4:84461507, AGPAT9||Intron 1:3855, PBMC; 4:88755207, MEPE||Intron 1:1087|Intron 1:12645, PBMC; 4:90481402, PBMC; 4:9382953, PBMC; 4:941054, TMEM175||Intron 1:14793, PBMC; 4:96470286, UNC5C||Proximal Promoter:75, PBMC; 4:96760945, 4:96760945, PDHA2||Proximal Promoter:-293, PBMC; 4:9783196, DRD5||Proximal Promoter:-61, PBMC; 4:9783198, DRD5||Proximal Promoter:-59, PBMC; 4:9783363, DRD5||Proximal Promoter:106, PBMC; 4:9783398, DRD5||Proximal Promoter:141, PBMC; 4:99700350, PBMC; 5:102729419, PBMC; 5:10308785, CMBL||Proximal Promoter:-617, PBMC; 5:103876192, PBMC; 5:10563358, ANKRD33B||Proximal Promoter:-1076, PBMC; 5:10565679, 5:10565679, ANKRD33B||Intron 1:1245, PBMC; 5:10566165, ANKRD33B||Intron 1:1731, PBMC; 5:106606747, PBMC; 5:1093066, PBMC; 5:110062343, TMEM232||Proximal Promoter:107, PBMC; 5:110062384, TMEM232||Proximal Promoter:66, PBMC; 5:110062398, TMEM232||Proximal Promoter:52, PBMC; 5:110062417, TMEM232||Proximal Promoter:33, PBMC; 5:110062473, TMEM232||Proximal Promoter:-23, PBMC; 5:110062729, TMEM232||Proximal Promoter:-279, PBMC; 5:110409467, TSLP||Proximal Promoter:456|Intron 3:2078|Intron 4:3690, PBMC; 5:110427346, WDR36||Proximal Promoter:-523, PBMC; 5:110919885, LOC100505678||Intron 1:71962, PBMC; 5:110948135, LOC100505678||Intron 1:100212, PBMC; 5:112483149, MCC||Intron 2:147463|Intron 4:341378, PBMC; 5:112715162, MCC||Intron 2:109365, PBMC; 5:112824497, PBMC; 5:113698291, KCNN2||Proximal Promoter:276, PBMC; 5:114525702, TRIM36||5' Proximal Enhancer:-9459, PBMC; 5:115790387, SEMA6A||Intron 18:120164, PBMC; 5:11589049, CTNND2||Intron 2:315061, PBMC; 5:118677172, TNFAIP8||Intron 1:72755, PBMC; 5:118691751, TNFAIP8||Proximal Promoter:156|Intron 1:87334, PBMC; 5:121412184, LOX||Intron 1:734|Intron 2:1871, PBMC; 5:121414634, LOX||Proximal Promoter:-1716|Proximal Promoter:-579, PBMC; 5:121415023, LOX||Proximal Promoter:-2105|Proximal

Promoter:-968, PBMC; 5:121647858, SNCAIP||Proximal Promoter:39, PBMC; 5:121742044, SNCAIP||Intron 3:94225, PBMC; 5:122766566, CEP120||5' Proximal Enhancer:-7280, PBMC; 5:1228214, SLC6A18||Intron 1:2745, SLC6A19||3' Proximal Enhancer:26505, PBMC; 5:1243949, SLC6A18||Intron 9:18480, TERT||3' Proximal Enhancer:51213, PBMC; 5:125171542, PBMC; 5:1255458, SLC6A18||3' Proximal Enhancer:29989, TERT||Exon 14:39704, PBMC; 5:125762736, GRAMD3||Intron 1:3868|Intron 1:66949, PBMC; 5:126409007, C5orf63||Proximal Promoter:177, PBMC; 5:126409061, C5orf63||Proximal Promoter:123, PBMC; 5:126409153, C5orf63||Proximal Promoter:31, PBMC; 5:126409198, C5orf63||Proximal Promoter:-14, PBMC; 5:126409211, C5orf63||Proximal Promoter:-27, PBMC; 5:126409227, C5orf63||Proximal Promoter:-43, PBMC; 5:126409310, C5orf63||Proximal Promoter:-126, PBMC; 5:126852998, PRRC1||Proximal Promoter:-310, PBMC; 5:126853024, PRRC1||Proximal Promoter:-284, PBMC; 5:128301083, SLC27A6||Proximal Promoter:-129|Proximal Promoter:-126, PBMC; 5:1298644, TERT||Distal Promoter:-3482, PBMC; 5:1300309, MIR4457||3' Proximal Enhancer:9183, TERT||5' Proximal Enhancer:-5147, PBMC; 5:131310461, ACSL6||Intron 11:36894|Intron 10:37146|Intron 11:37300, PBMC; 5:132938694, PBMC; 5:132947725, PBMC; 5:133446318, TCF7||5' Proximal Enhancer:-5031|Distal Promoter:-4979|Distal Promoter:-4083, PBMC; 5:133449542, TCF7||Proximal Promoter:-1807|Proximal Promoter:-1755|Proximal Promoter:-859, PBMC; 5:133451474, TCF7||Proximal Promoter:125|Proximal Promoter:177|Intron 2:1073, PBMC; 5:133453480, TCF7||Intron 1:2131|Intron 2:2183|Intron 3:3079, PBMC; 5:134365728, PITX1||Intron 2:4236, PBMC; 5:134388224, PBMC; 5:134881662, PBMC; 5:135265931, FBXL21||Proximal Promoter:-74, PBMC; 5:135416394, VTRNA2-1||Proximal Promoter:-108, PBMC; 5:13664584, PBMC; 5:137785499, REEP2||3' Proximal Enhancer:10724, PBMC; 5:137827315, PBMC; 5:138725400, C5orf65||3' Proximal Enhancer:5485, MZB1||Proximal Promoter:205, PBMC; 5:138725482, C5orf65||3' Proximal Enhancer:5403, MZB1||Proximal Promoter:123, PBMC; 5:138861241, TMEM173||Exon 3:1102, PBMC; 5:139040928, CXXC5||Intron 1:12628, PBMC; 5:139041014, CXXC5||Intron 1:12714, PBMC; 5:139047739, CXXC5||Intron 1:19439, PBMC; 5:139050159, CXXC5||Intron 1:21859, PBMC; 5:139077047, PBMC; 5:139223811, NRG2||3' Proximal Enhancer:199073, PSD2||Exon 15:48406, PBMC; 5:139927754, ANKHD1||3' Proximal Enhancer:146356, ANKHD1-EIF4EBP3||Intron 34:146356, PBMC; 5:140201656, PCDHA1||Intron 1:35781, PCDHA2||Intron 1:27213, PBMC; 5:140235435, PCDHA1||Intron 1:69560, PCDHA10||Proximal Promoter:-198, PBMC; 5:140235510, PCDHA1||Intron 1:69635, PCDHA10||Proximal Promoter:-123, PBMC; 5:140261749, PCDHA1||Intron 1:95874, PCDHA10||Intron 1:26116, PBMC; 5:140306205, PCDHA1||Intron 1:140330, PCDHA10||Intron 1:70572, PBMC; 5:140306208, PCDHA1||Intron 1:140333, PCDHA10||Intron 1:70575, PBMC; 5:140346394, PCDHA1||Intron 1:180519, PCDHA10||Intron 1:110761, PBMC; 5:140499367, PCDHB4||Proximal Promoter:-2213, PBMC; 5:140501812, PCDHB4||Proximal Promoter:232, PBMC; 5:140515736, PCDHB5||Exon 1:937, PBMC; 5:140530222, PCDHB17||5' Proximal Enhancer:-5357, PCDHB6||Proximal Promoter:384, PBMC; 5:140552992, PCDHB16||5' Proximal Enhancer:-7987, PCDHB7||Exon 1:750, PBMC; 5:140573438, PCDHB10||Exon 1:1487, PCDHB11||5' Proximal Enhancer:-5909, PBMC; 5:140579298, PCDHB10||3' Proximal Enhancer:7347, PCDHB11||Proximal Promoter:-49, PBMC; 5:140579470, PCDHB10||3' Proximal Enhancer:7519, PCDHB11||Proximal Promoter:123, PBMC; 5:140710688, PCDHGA1||Proximal Promoter:437, PCDHGA2||5' Proximal Enhancer:-7665, PBMC; 5:140712209, PCDHGA1||Exon 1:1958, PCDHGA2||5' Proximal Enhancer:-6144, PBMC; 5:140794993, PCDHGA1||Intron 1:84742, PCDHGA10||Exon 1:2251, PBMC; 5:141255282, PCDH1||Intron 1:2662, PBMC; 5:141616065, PBMC; 5:141697464, SPRY4||Intron 2:7156, PBMC; 5:1420305, SLC6A3||Intron 6:25238, PBMC; 5:143978357, PBMC; 5:1446208, SLC6A3||Proximal Promoter:-665, PBMC; 5:1446217, SLC6A3||Proximal Promoter:-674, PBMC; 5:145710603, POU4F3||5' Proximal Enhancer:-7983, PBMC; 5:147699718, SPINK7||3' Proximal Enhancer:7729, PBMC; 5:148033473, HTR4||Proximal Promoter:266, PBMC; 5:14870083, PBMC; 5:14870594, PBMC; 5:14870666, PBMC; 5:149675782, ARSI||3' Proximal Enhancer:6743, CAMK2A||5' Proximal Enhancer:-6379, PBMC; 5:150226278, IRGM||Proximal Promoter:194, PBMC; 5:150677867, SLC36A3||Intron 2:5467, PBMC; 5:1519265, LPCAT1||Intron 1:4811, PBMC; 5:152502171, PBMC; 5:153873021, PBMC; 5:154023157, PBMC; 5:155108371, PBMC; 5:1594579, LOC728613||3' Proximal Enhancer:39541, SDHAP3||Proximal Promoter:67, PBMC; 5:160357337, LOC285629||3' Proximal Enhancer:8296, PBMC; 5:161494307, GABRG2||Proximal Promoter:-340, PBMC; 5:161494515, GABRG2||Proximal Promoter:-132, PBMC; 5:161494711, GABRG2||Proximal Promoter:64, PBMC; 5:1633398, LOC728613||Intron 1:722, PBMC; 5:163723934, PBMC; 5:1644542, PBMC; 5:16614241, FAM134B||Intron 1:2926, PBMC; 5:1663755, PBMC; 5:16785399, MYO10||Intron 4:150986, PBMC; 5:168302634, PBMC; 5:16843340, MYO10||Intron 2:93045, PBMC; 5:168727762, PBMC; 5:16895511, MYO10||Intron 1:40874, PBMC; 5:169930919, KCNIP1||Proximal Promoter:-128, PBMC; 5:169931092, KCNIP1||Proximal Promoter:45, PBMC; 5:170736389, RANBP17||3' Proximal Enhancer:447494,

TLX3||Proximal Promoter:102, PBMC; 5:170738274, TLX3||Intron 2:1987, PBMC; 5:170763941, PBMC; 5:171057078, PBMC; 5:171057196, PBMC; 5:171541827, STK10||Intron 4:73519, PBMC; 5:172149624, PBMC; 5:172751331, STC2||Intron 2:5175, PBMC; 5:17381798, LOC401177||Intron 2:5621, PBMC; 5:174151492, MSX2||Proximal Promoter:-82, PBMC; 5:174962968, SFXN1||3' Proximal Enhancer:57455, PBMC; 5:175200015, PBMC; 5:175295119, CPLX2||Distal Promoter:-3381|Intron 2:71510, PBMC; 5:175297531, CPLX2||Proximal Promoter:-969|Intron 2:73922, PBMC; 5:176099987, PBMC; 5:176125405, PBMC; 5:176423596, UIMC1||Intron 1:9847|Intron 2:10184|Intron 1:10199, PBMC; 5:177409334, PROP1||3' Proximal Enhancer:13909, PBMC; 5:177411380, PROP1||3' Proximal Enhancer:11863, PBMC; 5:177542603, N4BP3||Intron 1:2048, PBMC; 5:177548398, N4BP3||Intron 4:7843, RMND5B||5' Proximal Enhancer:-9629, PBMC; 5:177614382, GMCL1P1||Proximal Promoter:51, PBMC; 5:177913485, COL23A1||Intron 2:104071, PBMC; 5:178016195, COL23A1||Intron 1:1361, PBMC; 5:178208610, AACSP1||5' Proximal Enhancer:-5333, PBMC; 5:178421711, GRM6||Proximal Promoter:413, PBMC; 5:178422071, 5:178422071, GRM6||Proximal Promoter:53, PBMC; 5:178422260, GRM6||Proximal Promoter:-136, PBMC; 5:178549790, ADAMTS2||Intron 19:222641, PBMC; 5:178565001, ADAMTS2||Intron 11:207430, PBMC; 5:179230866, LTC4S||3' Proximal Enhancer:9881, MGAT4B||Proximal Promoter:-991|Intron 1:3086, PBMC; 5:179231109, LTC4S||3' Proximal Enhancer:10124, MGAT4B||Proximal Promoter:-1234|Intron 1:2843, PBMC; 5:179497098, PBMC; 5:180018503, SCGB3A1||Proximal Promoter:-16, PBMC; 5:180075862, FLT4||Intron 1:762, PBMC; 5:180076982, FLT4||Proximal Promoter:-358, PBMC; 5:180085924, FLT4||5' Proximal Enhancer:-9300, PBMC; 5:180116385, PBMC; 5:180233833, MGAT1||Distal Promoter:-3785|Distal Promoter:-2931|Intron 2:2984|Intron 2:3304, PBMC; 5:180235800, 5:180235800, MGAT1||5' Proximal Enhancer:-5752|Distal Promoter:-4898|Exon 2:1017|Exon 2:1337, PBMC; 5:180478185, 5:180478185, BTNL9||Intron 4:10961, PBMC; 5:180525108, PBMC; 5:180527369, PBMC; 5:180527547, PBMC; 5:180527697, PBMC; 5:180614858, TRIM7||3' Proximal Enhancer:13072|3' Proximal Enhancer:16482|3' Proximal Enhancer:17319, PBMC; 5:180620978, TRIM7||Exon 5:6952|Exon 7:10362|Exon 7:11199, PBMC; 5:1828098, PBMC; 5:1851071, PBMC; 5:1856932, PBMC; 5:1857477, PBMC; 5:1867978, IRX4||3' Proximal Enhancer:14902, PBMC; 5:1868261, 5:1868261, IRX4||3' Proximal Enhancer:14619, PBMC; 5:1868279, IRX4||3' Proximal Enhancer:14601, PBMC; 5:1882871, IRX4||Proximal Promoter:9, PBMC; 5:1882885, 5:1882885, IRX4||Proximal Promoter:-5, PBMC; 5:1886956, 5:1886956, IRX4||Distal Promoter:-4076, PBMC; 5:1887300, IRX4||Distal Promoter:-4420, PBMC; 5:23507450, PRDM9||Proximal Promoter:-273, PBMC; 5:23507594, PRDM9||Proximal Promoter:-129, PBMC; 5:23507617, PRDM9||Proximal Promoter:-106, PBMC; 5:2739602, IRX2||3' Proximal Enhancer:12167, PBMC; 5:2743124, C5orf38||5' Proximal Enhancer:-9137, IRX2||3' Proximal Enhancer:8645, PBMC; 5:2755540, C5orf38||3' Proximal Enhancer:3279, IRX2||Distal Promoter:-3771, PBMC; 5:28928346, LOC729862||3' Proximal Enhancer:1370, PBMC; 5:3093070, PBMC; 5:3252031, PBMC; 5:3428696, LOC285577||Intron 2:107512, PBMC; 5:34929231, BRIX1||3' Proximal Enhancer:13412, DNAJC21||Proximal Promoter:-466, PBMC; 5:35803436, SPEF2||Intron 34:185448, PBMC; 5:3596207, IRX1||Proximal Promoter:40, PBMC; 5:3597311, IRX1||Intron 1:1144, PBMC; 5:368804, AHRR||Intron 3:64514, PBMC; 5:39270715, FYB||Proximal Promoter:44, PBMC; 5:39724339, PBMC; 5:400517, AHRR||Intron 4:96227, PBMC; 5:42423947, GHR||Proximal Promoter:-1146|Proximal Promoter:-606|Proximal Promoter:71, PBMC; 5:434998, AHRR||Exon 12:130708, C5orf55||3' Proximal Enhancer:8260, PBMC; 5:502291, 5:502291, SLC9A3||Intron 1:22258, PBMC; 5:50678925, ISL1||Proximal Promoter:-32, PBMC; 5:50678928, ISL1||Proximal Promoter:-29, PBMC; 5:5140646, ADAMTS16||Proximal Promoter:204, PBMC; 5:52082858, ITGA1||Proximal Promoter:-1277, PELO||Proximal Promoter:-915, PBMC; 5:53564, PBMC; 5:54117761, PBMC; 5:54128677, PBMC; 5:54831346, PPAP2A||Proximal Promoter:-473, RNF138P1||Proximal Promoter:-976, PBMC; 5:55775841, PBMC; 5:55776345, PBMC; 5:55776364, PBMC; 5:55776401, PBMC; 5:56060091, PBMC; 5:56679194, PBMC; 5:5887642, PBMC; 5:58883392, PDE4D||Proximal Promoter:-1068|Intron 1:181046|Intron 1:306229|Intron 3:900533, PBMC; 5:63461566, RNF180||Proximal Promoter:-104, PBMC; 5:63461574, RNF180||Proximal Promoter:-96, PBMC; 5:63461582, RNF180||Proximal Promoter:-88, PBMC; 5:63798214, RGS7BP||Distal Promoter:-4237, PBMC; 5:6581849, LOC255167||Proximal Promoter:-1560|Proximal Promoter:-437, PBMC; 5:66462662, MAST4||Exon 28:338059|Exon 29:570487, PBMC; 5:669397, TPPP||Intron 2:24113, PBMC; 5:6700750, PBMC; 5:672872, TPPP||Intron 2:20638, PBMC; 5:70742893, BDP1||5' Proximal Enhancer:-8548, PBMC; 5:70746259, BDP1||5' Proximal Enhancer:-5182, PBMC; 5:72485634, PBMC; 5:72596646, PBMC; 5:72666838, PBMC; 5:7290253, LOC442132||3' Proximal Enhancer:16574, PBMC; 5:7395395, ADCY2||Proximal Promoter:-947, PBMC; 5:74349993, PBMC; 5:74350132, PBMC; 5:74350214, PBMC; 5:75379336, SV2C||Proximal Promoter:32, PBMC; 5:75701065, IQGAP2||Intron 1:1917, PBMC; 5:75701460, IQGAP2||Intron 1:2312, PBMC; 5:76012827, F2R||Intron 1:960, NCRUPAR||3' Proximal Enhancer:5065, PBMC; 5:76507050,

PDE8B||Proximal Promoter:345, PBMC; 5:76727406, PDE8B||3' Proximal Enhancer:220701, WDR41||3' Proximal Enhancer:60926, PBMC; 5:77139964, PBMC; 5:77142469, PBMC; 5:77142620, PBMC; 5:77142695, PBMC; 5:77146999, PBMC; 5:77147141, PBMC; 5:78281793, ARSB||Proximal Promoter:-27|Exon 1:564, PBMC; 5:78281964, ARSB||Proximal Promoter:-198|Proximal Promoter:393, PBMC; 5:78365647, BHMT2||Proximal Promoter:101, DMGDH||Proximal Promoter:-198, PBMC; 5:78985489, CMYA5||Proximal Promoter:-169, PAPD4||3' Proximal Enhancer:77247, PBMC; 5:78985562, CMYA5||Proximal Promoter:-96, PAPD4||3' Proximal Enhancer:77320, PBMC; 5:79490511, SERINC5||Intron 2:61387, PBMC; 5:79549315, SERINC5||Intron 1:2583, PBMC; 5:80257268, RASGRF2||Intron 1:761, PBMC; 5:80257322, RASGRF2||Intron 1:815, PBMC; 5:80493, PBMC; 5:80687790, ACOT12||Intron 1:2198, PBMC; 5:80690220, ACOT12||Proximal Promoter:-232, PBMC; 5:80692267, ACOT12||Proximal Promoter:-2279, PBMC; 5:81470056, ATG10||Intron 5:202213, PBMC; 5:87441081, PBMC; 5:90575362, PBMC; 5:90575422, PBMC; 5:90576987, PBMC; 5:92414398, PBMC; 5:92549171, PBMC; 5:92927796, NR2F1||Intron 2:8754, PBMC; 5:95295740, ELL2||Intron 1:2035, PBMC; 5:95419503, MIR583||3' Proximal Enhancer:4662, PBMC; 5:96298493, LNPEP||Intron 1:4338|Intron 1:27148, PBMC; 6:100442553, LOC728012||Intron 1:640, MCHR2||Proximal Promoter:-454|Proximal Promoter:-439, PBMC; 6:100894513, SIM1||Intron 8:17038, PBMC; 6:100895211, 6:100895211, SIM1||Exon 8:16340, PBMC; 6:100897445, SIM1||Intron 4:14106, PBMC; 6:100915805, SIM1||Distal Promoter:-4254, PBMC; 6:101851283, 6:101851283, GRIK2||Intron 1:4423, PBMC; 6:10416090, LOC100130275||Exon 3:3540, TFAP2A||Distal Promoter:-3483|Proximal Promoter:-620|Intron 1:3707, PBMC; 6:10529935, 6:10529935, GCNT2||Exon 3:8368, PBMC; 6:106475062, PBMC; 6:106551827, PRDM1||Intron 2:5091|Intron 4:17633, PBMC; 6:106808703, PBMC; 6:10881782, GCM2||Proximal Promoter:316, SYCP2L||5' Proximal Enhancer:-5281, PBMC; 6:108886681, FOXO3||Intron 1:4613|Intron 2:5656, PBMC; 6:109159348, PBMC; 6:109288592, ARMC2||Intron 17:118974, PBMC; 6:11044974, ELOVL2||Proximal Promoter:-350, LOC100506409||Proximal Promoter:51|Intron 1:984, PBMC; 6:110797797, SLC22A16||Proximal Promoter:47, PBMC; 6:111888567, TRAF3IP2||Proximal Promoter:-46|Intron 3:6331|Intron 7:38907, TRAF3IP2-AS1||Intron 1:83893, PBMC; 6:111888652, TRAF3IP2||Proximal Promoter:-131|Intron 3:6246|Intron 7:38822, TRAF3IP2-AS1||Intron 1:83978, PBMC; 6:111888683, TRAF3IP2||Proximal Promoter:-162|Intron 3:6215|Intron 7:38791, TRAF3IP2-AS1||Intron 1:84009, PBMC; 6:111926749, TRAF3IP2||Intron 1:725, TRAF3IP2-AS1||3' Proximal Enhancer:122075, PBMC; 6:113128231, PBMC; 6:113886340, PBMC; 6:114844832, PBMC; 6:116248269, PBMC; 6:11710597, C6orf105||3' Proximal Enhancer:68683, PBMC; 6:117802725, DCBLD1||Proximal Promoter:-1094, PBMC; 6:119027122, PBMC; 6:12064975, HIVEP1||Intron 2:52252, PBMC; 6:12292676, EDN1||Exon 2:2148, PBMC; 6:123317473, CLVS2||Proximal Promoter:-108, PBMC; 6:123317569, CLVS2||Proximal Promoter:-12, PBMC; 6:12342070, PBMC; 6:125623414, 6:125623414, HDDC2||Proximal Promoter:-132, PBMC; 6:126277357, HINT3||Proximal Promoter:-503, PBMC; 6:130007252, ARHGAP18||Intron 1:24118, PBMC; 6:130504413, SAMD3||Exon 6:32081|Intron 7:39686, PBMC; 6:130537970, SAMD3||Proximal Promoter:-1476|Intron 1:6129, PBMC; 6:132272342, CTGF||Proximal Promoter:176, PBMC; 6:133055183, VNN2||3' Proximal Enhancer:23839|3' Proximal Enhancer:23850|3' Proximal Enhancer:29415, VNN3||Intron 2:721, PBMC; 6:133561647, EYA4||Proximal Promoter:-847, PBMC; 6:134214649, TCF21||3' Proximal Enhancer:4390|Exon 3:4391, PBMC; 6:134497247, SGK1||Proximal Promoter:-1213|Proximal Promoter:-177|Intron 1:1763|Intron 3:141949, PBMC; 6:135203613, PBMC; 6:135644405, AHI1||Exon 25:174498, PBMC; 6:13574034, SIRT5||Proximal Promoter:-824|Proximal Promoter:-726, PBMC; 6:138718522, HEBP2||5' Proximal Enhancer:-6813, PBMC; 6:138726184, HEBP2||Intron 1:849, PBMC; 6:139307985, REPS1||Intron 1:1413, PBMC; 6:1410267, PBMC; 6:142677346, GPR126||Intron 2:54291, PBMC; 6:143206075, HIVEP2||Intron 1:60263, PBMC; 6:144011222, PHACTR2||Intron 1:12121|Intron 1:81906, PBMC; 6:144386231, PBMC; 6:144698834, 6:144698834, UTRN||Intron 1:85962, PBMC; 6:146350230, GRM1||Intron 1:1449, PBMC; 6:146920035, C6orf103||Proximal Promoter:-100, PBMC; 6:146920129, C6orf103||Proximal Promoter:-6, PBMC; 6:146920166, C6orf103||Proximal Promoter:31, PBMC; 6:148664322, SASH1||Exon 1:594, PBMC; 6:149381604, PBMC; 6:149532290, PBMC; 6:150346787, RAET1L||Proximal Promoter:-119, PBMC; 6:152958624, SYNE1||Proximal Promoter:-638|Proximal Promoter:-90, PBMC; 6:152958899, SYNE1||Proximal Promoter:-913|Proximal Promoter:-365, PBMC; 6:153224221, PBMC; 6:154360483, OPRM1||Proximal Promoter:41|Intron 1:28848|Intron 2:28853, PBMC; 6:155464712, TIAM2||Intron 4:53290, PBMC; 6:15658832, DTNBP1||Intron 2:4457, PBMC; 6:157040896, PBMC; 6:157041546, PBMC; 6:157931791, ZDHHC14||Intron 1:129235, PBMC; 6:158245646, SNX9||Intron 1:1353, PBMC; 6:158430311, SYNJ2||5' Proximal Enhancer:-7768|Intron 1:27424, PBMC; 6:158478872, SYNJ2||Intron 5:40793|Intron 6:75985, PBMC; 6:158957433, TMEM181||Proximal Promoter:-34, PBMC; 6:159392353, RSPH3||3' Proximal Enhancer:28845, PBMC; 6:1601509, FOXC1||5' Proximal Enhancer:-9171, PBMC; 6:160182438,

ACAT2||Proximal Promoter:-550, LOC100129518||Exon 2:926, PBMC; 6:160182447, ACAT2||Proximal Promoter:-541, LOC100129518||Exon 2:917, PBMC; 6:160182554, ACAT2||Proximal Promoter:-434, LOC100129518||Exon 2:810, PBMC; 6:160241360, PNLDC1||Intron 18:20060, PBMC; 6:160241519, PNLDC1||Exon 19:20219, PBMC; 6:160252347, PBMC; 6:1604081, FOXC1||5' Proximal Enhancer:-6599, PBMC; 6:1604140, FOXC1||5' Proximal Enhancer:-6540, PBMC; 6:161100672, PBMC; 6:161188322, PBMC; 6:1619162, FOXC1||3' Proximal Enhancer:8482, GMDS||3' Proximal Enhancer:557063|3' Proximal Enhancer:626706, PBMC; 6:162384350, 6:162384350, PARK2||Intron 3:Intron 5:Intron 6:764484, PBMC; 6:163673130, PACRG||Intron 4:524129|Intron 5:524967, PBMC; 6:163673239, PACRG||Intron 4:524238|Intron 5:525076, PBMC; 6:163746113, LOC285796||Proximal Promoter:-608, PACRG||3' Proximal Enhancer:597112|3' Proximal Enhancer:597950, PBMC; 6:164392967, PBMC; 6:166232960, PBMC; 6:166233141, PBMC; 6:166720997, PRR18||Exon 1:874, PBMC; 6:167524238, CCR6||Proximal Promoter:-1056, PBMC; 6:167786059, TCP10||3' Proximal Enhancer:11939, PBMC; 6:168073237, PBMC; 6:168147405, PBMC; 6:168435914, KIF25||Intron 4:17362, PBMC; 6:168436019, KIF25||Intron 4:17467, PBMC; 6:168502341, PBMC; 6:168533631, PBMC; 6:168533689, PBMC; 6:168549936, PBMC; 6:168720476, 6:168720476, DACT2||Proximal Promoter:-74, PBMC; 6:168720487, DACT2||Proximal Promoter:-85, PBMC; 6:168720505, DACT2||Proximal Promoter:-103, PBMC; 6:168790174, PBMC; 6:168842035, SMOC2||Proximal Promoter:205, PBMC; 6:169248185, PBMC; 6:169539646, PBMC; 6:169629902, THBS2||Intron 14:24235, PBMC; 6:169630013, THBS2||Intron 14:24124, PBMC; 6:169825345, PBMC; 6:169825927, PBMC; 6:169857450, WDR27||Exon 26:244709, PBMC; 6:170338591, PBMC; 6:170467790, PBMC; 6:170554002, LOC154449||3' Proximal Enhancer:17655, PBMC; 6:170686343, PBMC; 6:170703522, PBMC; 6:170732353, PBMC; 6:171036378, PBMC; 6:17394312, CAP2||Intron 1:577, PBMC; 6:21664652, LINC00340||Proximal Promoter:-2022, PBMC; 6:21664778, LINC00340||Proximal Promoter:-1896, PBMC; 6:21667815, LINC00340||Intron 1:1141, PBMC; 6:21916568, LINC00340||Intron 5:249894, PBMC; 6:24900051, PBMC; 6:24910562, PBMC; 6:25701717, SCGN||Exon 11:49289, PBMC; 6:26017619, HIST1H1A||Proximal Promoter:421, HIST1H3A||Distal Promoter:-3098, PBMC; 6:26018127, HIST1H1A||Proximal Promoter:-87, HIST1H3A||Distal Promoter:-2590, PBMC; 6:26330584, PBMC; 6:26442290, BTN3A3||Intron 1:1591, PBMC; 6:27181670, PBMC; 6:27236425, PBMC; 6:27236793, PBMC; 6:27447492, ZNF184||5' Proximal Enhancer:-6595, PBMC; 6:27637520, PBMC; 6:27648004, PBMC; 6:27648341, PBMC; 6:27648605, PBMC; 6:28446794, PBMC; 6:28446840, PBMC; 6:28447087, PBMC; 6:28447107, PBMC; 6:28447115, PBMC; 6:28558113, SCAND3||Distal Promoter:-3001, PBMC; 6:28565626, PBMC; 6:28911938, PBMC; 6:28945182, PBMC; 6:28945500, PBMC; 6:29013336, LOC100129636||Intron 3:9337, OR2W1||Proximal Promoter:-384, PBMC; 6:29364799, OR12D2||Proximal Promoter:384, PBMC; 6:29521228, UBD||3' Proximal Enhancer:6474, PBMC; 6:29521272, UBD||3' Proximal Enhancer:6430, PBMC; 6:29521356, UBD||3' Proximal Enhancer:6346, PBMC; 6:29521407, UBD||3' Proximal Enhancer:6295, PBMC; 6:29521420, UBD||3' Proximal Enhancer:6282, PBMC; 6:29521430, UBD||3' Proximal Enhancer:6272, PBMC; 6:29521499, UBD||3' Proximal Enhancer:6203, PBMC; 6:29521501, UBD||3' Proximal Enhancer:6201, PBMC; 6:29629758, MOG||Intron 2:5001, PBMC; 6:29692082, HLA-F||Exon 3:966, HLA-F-AS1||3' Proximal Enhancer:24744, PBMC; 6:29692085, HLA-F||Exon 3:969, HLA-F-AS1||3' Proximal Enhancer:24741, PBMC; 6:29692092, HLA-F||Exon 3:976, HLA-F-AS1||3' Proximal Enhancer:24734, PBMC; 6:2974079, SERPINB6||Proximal Promoter:-1680, PBMC; 6:29761288, HCG4||Proximal Promoter:-438, LOC554223||Intron 2:1606, PBMC; 6:29818291, PBMC; 6:29818300, PBMC; 6:29854799, HLA-H||Proximal Promoter:-583, PBMC; 6:29855302, HLA-H||Proximal Promoter:-80, PBMC; 6:29855338, HLA-H||Proximal Promoter:-44, PBMC; 6:29855347, HLA-H||Proximal Promoter:-35, PBMC; 6:29855435, HLA-H||Proximal Promoter:53, PBMC; 6:29856477, HLA-H||Exon 3:1095, PBMC; 6:29856494, HLA-H||Exon 3:1112, PBMC; 6:29892731, HCG4B||Exon 1:697, PBMC; 6:29894152, HCG4B||Proximal Promoter:-724, PBMC; 6:29895116, HCG4B||Proximal Promoter:-1688, PBMC; 6:29895175, HCG4B||Proximal Promoter:-1747, PBMC; 6:29895187, HCG4B||Proximal Promoter:-1759, PBMC; 6:29895204, HCG4B||Proximal Promoter:-1776, PBMC; 6:29895260, HCG4B||Proximal Promoter:-1832, PBMC; 6:29911366, 6:29911366, HLA-A||Intron 3:1120, PBMC; 6:29975328, HLA-J||Intron 3:1581, ZNRD1-AS1||Intron 5:53633, PBMC; 6:29975416, 6:29975416, HLA-J||Intron 3:1669, ZNRD1-AS1||Intron 5:53545, PBMC; 6:29981250, HLA-J||3' Proximal Enhancer:7503, ZNRD1-AS1||Intron 5:47711, PBMC; 6:30039130, PPP1R11||3' Proximal Enhancer:4199, RNF39||Intron 4:4496|Exon 4:4498, PBMC; 6:30039132, PPP1R11||3' Proximal Enhancer:4201, RNF39||Intron 4:4494|Exon 4:4496, PBMC; 6:30039142, PPP1R11||3' Proximal Enhancer:4211, RNF39||Intron 4:4484|Exon 4:4486, PBMC; 6:30039408, PPP1R11||3' Proximal Enhancer:4477, RNF39||Exon 4:4218|Exon 4:4220, PBMC; 6:30039900, PPP1R11||3' Proximal Enhancer:4969, RNF39||Intron 3:3726|Intron 3:3728, PBMC; 6:30074162, TRIM31||Intron 6:6705, PBMC; 6:30080230, TRIM31||Exon 2:637, PBMC; 6:30080495, TRIM31||Proximal

Promoter:372, PBMC; 6:30227583, 6:30227583, HLA-L||Proximal Promoter:245, PBMC; 6:30286162, HCG18||Intron 1:8765, TRIM39||5' Proximal Enhancer:-8845|5' Proximal Enhancer:-8458, PBMC; 6:30419373, PBMC; 6:30419491, PBMC; 6:30419551, PBMC; 6:30419612, PBMC; 6:30433749, PBMC; 6:30433943, PBMC; 6:30582241, MRPS18B||Distal Promoter:-3244, PPP1R10||Intron 2:2779, PBMC; 6:30582333, MRPS18B||Distal Promoter:-3152, PPP1R10||Intron 2:2687, PBMC; 6:30698706, FLOT1||Exon 9:11747, TUBB||3' Proximal Enhancer:10550, PBMC; 6:30737436, PBMC; 6:30737455, PBMC; 6:30850581, DDR1||5' Proximal Enhancer:-5883|Proximal Promoter:-2175|Proximal Promoter:-1745|Proximal Promoter:-1279, MIR4640||5' Proximal Enhancer:-8078, PBMC; 6:30881658, GTF2H4||Exon 14:5682, VARS2||Proximal Promoter:-449|Proximal Promoter:-323, PBMC; 6:30881728, GTF2H4||Exon 14:5752, VARS2||Proximal Promoter:-379|Proximal Promoter:-253, PBMC; 6:30899233, DPCR1||5' Proximal Enhancer:-9543, SFTA2||Exon 3:719, PBMC; 6:31105872, CCHCR1||3' Proximal Enhancer:19694|3' Proximal Enhancer:20143, PSORS1C2||Exon 2:1255, PBMC; 6:31237034, HLA-C||Intron 7:2879, PBMC; 6:31237405, HLA-C||Intron 5:2508, PBMC; 6:31237722, HLA-C||Intron 5:2191, PBMC; 6:31238908, HLA-C||Exon 3:1005, PBMC; 6:31239320, HLA-C||Intron 2:593, PBMC; 6:31241000, HLA-C||Proximal Promoter:-1087, PBMC; 6:31241294, HLA-C||Proximal Promoter:-1381, PBMC; 6:31275767, PBMC; 6:31275791, PBMC; 6:31275807, PBMC; 6:31322577, HLA-B||Intron 5:2412, PBMC; 6:31322914, 6:31322914, HLA-B||Exon 5:2075, PBMC; 6:31322996, HLA-B||Exon 5:1993, PBMC; 6:31323397, HLA-B||Intron 3:1592, PBMC; 6:31323677, 6:31323677, HLA-B||Intron 3:1312, PBMC; 6:31323856, HLA-B||Intron 3:1133, PBMC; 6:31323985, HLA-B||Exon 3:1004, PBMC; 6:31380198, MICA||Exon 5:8828|Exon 5:11726|Exon 5:12638, PBMC; 6:31382027, MICA||Intron 5:10657|Intron 5:13555|Intron 5:14467, PBMC; 6:3139627, BPHL||Intron 7:20702, PBMC; 6:31431407, HCG26||5' Proximal Enhancer:-7598, HCP5||Proximal Promoter:451, PBMC; 6:31431503, HCG26||5' Proximal Enhancer:-7502, HCP5||Exon 2:547, PBMC; 6:31431969, HCG26||5' Proximal Enhancer:-7036, HCP5||Exon 2:1013, PBMC; 6:31439497, HCG26||Proximal Promoter:492, HCP5||3' Proximal Enhancer:8541, PBMC; 6:31543540, LTA||3' Proximal Enhancer:3448|3' Proximal Enhancer:3665, LTB||3' Proximal Enhancer:6662, PBMC; 6:31543565, LTA||3' Proximal Enhancer:3473|3' Proximal Enhancer:3690, LTB||3' Proximal Enhancer:6637, PBMC; 6:31765619, LSM2||Exon 5:9142, VARS||Proximal Promoter:-1907, PBMC; 6:31867847, C2||Proximal Promoter:-928, EHMT2||Proximal Promoter:-2383, PBMC; 6:32489555, HLA-DRB5||Intron 2:8451, PBMC; 6:32492198, HLA-DRB5||Intron 1:5808, PBMC; 6:32604865, HLA-DQA1||Proximal Promoter:-317, PBMC; 6:32608858, HLA-DQA1||Intron 1:3676, PBMC; 6:32609783, HLA-DQA1||Exon 3:4601, PBMC; 6:32610971, HLA-DQA1||Exon 5:5789, PBMC; 6:32633157, HLA-DQB1||Intron 1:1309, PBMC; 6:32633163, 6:32633163, HLA-DQB1||Intron 1:1303, PBMC; 6:32729130, HLA-DQB2||Intron 2:2200, PBMC; 6:32729174, HLA-DQB2||Intron 2:2156, PBMC; 6:32823566, LOC100507463||3' Proximal Enhancer:11704, PSMB9||Intron 1:1629, PBMC; 6:32920220, HLA-DMA||Intron 1:679, PBMC; 6:32920784, HLA-DMA||Proximal Promoter:115, PBMC; 6:33151135, COL11A2||Intron 8:9110, PBMC; 6:33561099, 6:33561099, GGNBP1||3' Proximal Enhancer:9624, LINC00336||Proximal Promoter:16, PBMC; 6:33781855, PBMC; 6:34524698, SPDEF||Proximal Promoter:-588, PBMC; 6:3455459, SLC22A23||Intron 1:1334, PBMC; 6:34723499, SNRPC||Proximal Promoter:-1371, PBMC; 6:35466268, TEAD3||Proximal Promoter:-1407, TULP1||Intron 14:14379, PBMC; 6:35654363, FKBP5||Intron 1:2329|Intron 1:2356|Intron 2:41997, PBMC; 6:3753083, PXDC1||Proximal Promoter:-837, PBMC; 6:37616803, MDGA1||Exon 9:48963, PBMC; 6:37617864, MDGA1||Intron 8:47902, PBMC; 6:3851047, FAM50B||Exon 2:1416, PBMC; 6:39015339, GLP1R||Proximal Promoter:-1217, PBMC; 6:39271655, KCNK17||Intron 4:10581|Intron 4:10582, PBMC; 6:39290715, KCNK16||Proximal Promoter:-385, KCNK17||5' Proximal Enhancer:-8479|5' Proximal Enhancer:-8478, PBMC; 6:39740405, PBMC; 6:41343830, PBMC; 6:41383225, PBMC; 6:41394156, PBMC; 6:41516162, FOXP4||Intron 1:1999, PBMC; 6:41528198, FOXP4||Intron 1:14035, PBMC; 6:41903172, BYSL||3' Proximal Enhancer:14208, CCND3||Exon 5:6380|Exon 5:113438, PBMC; 6:42068088, C6orf132||3' Proximal Enhancer:42627, PBMC; 6:42928500, GNMT||Proximal Promoter:1, PEX6||3' Proximal Enhancer:18481, PBMC; 6:43336278, ZNF318||Intron 1:903, PBMC; 6:43444964, TJAP1||Proximal Promoter:-296, PBMC; 6:43445012, TJAP1||Proximal Promoter:-248, PBMC; 6:43612908, MAD2L1BP||3' Proximal Enhancer:9332|3' Proximal Enhancer:15630, RSPH9||Proximal Promoter:142, PBMC; 6:44190729, SLC29A1||Proximal Promoter:-633|Proximal Promoter:-566|Intron 1:3488, PBMC; 6:45391645, RUNX2||Intron 1:1732|Intron 3:95592, PBMC; 6:45406867, RUNX2||Intron 3:16954|Intron 5:110814, PBMC; 6:45982569, CLIC5||Intron 1:1057|Intron 1:65516, PBMC; 6:4942483, CDYL||Intron 4:52258|Intron 4:106152|Intron 4:165804|Intron 6:236091, PBMC; 6:50683213, TFAP2D||Exon 2:1957, PBMC; 6:52170606, PBMC; 6:54711276, FAM83B||Proximal Promoter:-292, PBMC; 6:54711417, FAM83B||Proximal Promoter:-151, PBMC; 6:54711476, FAM83B||Proximal Promoter:-92, PBMC; 6:55105271, HCRTR2||Intron 1:66201, PBMC; 6:55443757, HMGCLL1||Proximal Promoter:255, PBMC; 6:55761410, PBMC; 6:58777827, PBMC;

6:658460, EXOC2||Intron 1:34649, HUS1B||Proximal Promoter:-1496, PBMC; 6:68849256, PBMC; 6:71022072, COL9A1||5' Proximal Enhancer:-9286, PBMC; 6:71022175, COL9A1||5' Proximal Enhancer:-9389, PBMC; 6:7129714, RREB1||Intron 1:21629|Intron 1:21885, PBMC; 6:71874784, PBMC; 6:72130209, LINC00472||Proximal Promoter:239, PBMC; 6:72130799, LINC00472||Proximal Promoter:-351, PBMC; 6:74024628, C6orf147||Distal Promoter:-4540, KHDC1||Distal Promoter:-4690, PBMC; 6:74064047, C6orf221||5' Proximal Enhancer:-8352, DPPA5||Proximal Promoter:-48, PBMC; 6:74432658, CD109||Intron 2:27145|Intron 2:27151, PBMC; 6:77563066, PBMC; 6:79339195, PBMC; 6:8436263, LOC100506207||Proximal Promoter:408, SLC35B3||Proximal Promoter:-469, PBMC; 6:84418433, SNAP91||Proximal Promoter:414|Intron 1:694, PBMC; 6:84418659, SNAP91||Proximal Promoter:188|Proximal Promoter:468, PBMC; 6:84800491, MRAP2||Exon 4:57072, PBMC; 6:85474087, TBX18||Proximal Promoter:-188, PBMC; 6:85474093, TBX18||Proximal Promoter:-194, PBMC; 6:9399379, PBMC; 6:9607150, PBMC; 6:97372267, KLHL32||Proximal Promoter:-228, PBMC; 6:9842702, PBMC; 6:99295470, POU3F2||3' Proximal Enhancer:12891, PBMC; 7:100254149, ACTL6B||Proximal Promoter:-65, PBMC; 7:100824169, NAT16||Proximal Promoter:-612, PBMC; 7:100881429, CLDN15||Proximal Promoter:-202|Exon 1:672, FIS1||3' Proximal Enhancer:6942, PBMC; 7:101837148, CUX1||Exon 13:376267|Exon 12:377861|Exon 13:377965, PBMC; 7:102036050, LOC100630923||Intron 4:31743, PRKRIP1||Proximal Promoter:-753, PBMC; 7:102920777, DPY19L2P2||Proximal Promoter:-18|Proximal Promoter:136, PBMC; 7:105306555, ATXN7L1||Intron 1:13054|Intron 3:210476, PBMC; 7:105348517, ATXN7L1||Intron 3:168514, PBMC; 7:105596715, CDHR3||5' Proximal Enhancer:-6941, PBMC; 7:105755441, SYPL1||Distal Promoter:-2683|Proximal Promoter:-2384, PBMC; 7:106040839, PBMC; 7:1099421, GPR146||3' Proximal Enhancer:2281, PBMC; 7:112089798, IFRD1||Proximal Promoter:-2314|Proximal Promoter:-684|Intron 1:26600, PBMC; 7:112092682, IFRD1||Intron 1:570|Intron 1:2200|Intron 2:29484, PBMC; 7:1138716, GPER||3' Proximal Enhancer:10994|3' Proximal Enhancer:12274, PBMC; 7:1152615, PBMC; 7:116963259, WNT2||Proximal Promoter:84, PBMC; 7:1198926, ZFAND2A||Intron 1:929, PBMC; 7:121955310, CADPS2||3' Proximal Enhancer:571503, LOC154860||3' Proximal Enhancer:11599, PBMC; 7:12443880, VWDE||Proximal Promoter:-28, PBMC; 7:12443886, VWDE||Proximal Promoter:-34, PBMC; 7:12443926, VWDE||Proximal Promoter:-74, PBMC; 7:12444095, VWDE||Proximal Promoter:-243, PBMC; 7:12444115, VWDE||Proximal Promoter:-263, PBMC; 7:1250246, PBMC; 7:126890254, PBMC; 7:127514192, SND1||Intron 12:221991, PBMC; 7:127749463, PBMC; 7:1287065, PBMC; 7:129299889, NRF1||Intron 2:29971|Intron 2:48335, PBMC; 7:129415301, MIR182||Distal Promoter:-4969, MIR183||Proximal Promoter:-447, PBMC; 7:130131921, MEST||Proximal Promoter:23|Intron 1:752|Intron 1:5734|Intron 1:5906, MESTIT1||Proximal Promoter:-908, PBMC; 7:132882182, PBMC; 7:134464295, CALD1||Proximal Promoter:132, PBMC; 7:134916876, STRA8||Proximal Promoter:146, PBMC; 7:1367727, PBMC; 7:136832262, PBMC; 7:137029097, PTN||Proximal Promoter:-551, PBMC; 7:137531791, DGKI||Proximal Promoter:-182, PBMC; 7:137531801, DGKI||Proximal Promoter:-192, PBMC; 7:138229989, TRIM24||Intron 7:84911, PBMC; 7:139079360, LUC7L2||Intron 2:34753|Intron 3:53255, PBMC; 7:139761087, PARP12||Intron 1:2434, PBMC; 7:139872929, JHDM1D||Intron 1:3812, LOC100134229||Distal Promoter:-4131, PBMC; 7:140098579, RAB19||5' Proximal Enhancer:-5263, SLC37A3||Proximal Promoter:-268, PBMC; 7:140263173, DENND2A||Intron 7:39169, PBMC; 7:142353864, PBMC; 7:142421812, PBMC; 7:142447956, PRSS1||5' Proximal Enhancer:-9362, PBMC; 7:142494204, PBMC; 7:142494439, PBMC; 7:142494492, PBMC; 7:142511280, PBMC; 7:143108841, EPHA1||Distal Promoter:-2856, LOC285965||Intron 1:3936, PBMC; 7:143893948, ARHGEF35||Proximal Promoter:-1157, PBMC; 7:144184387, TPK1||Intron 8:348759, PBMC; 7:147500722, PBMC; 7:149112402, PBMC; 7:149323101, ZNF767||Proximal Promoter:-1220, PBMC; 7:149468365, SSPO||Distal Promoter:-4765, ZNF467||Intron 1:1930, PBMC; 7:149484798, SSPO||Exon 23:11668, PBMC; 7:149569883, ATP6V0E2||Proximal Promoter:-173, LOC401431||Intron 1:1068, PBMC; 7:149569946, ATP6V0E2||Proximal Promoter:-110, LOC401431||Intron 1:1005, PBMC; 7:149569987, ATP6V0E2||Proximal Promoter:-69, LOC401431||Intron 1:964, PBMC; 7:149570036, ATP6V0E2||Proximal Promoter:-20, LOC401431||Intron 1:915, PBMC; 7:149570040, ATP6V0E2||Proximal Promoter:-16, LOC401431||Intron 1:911, PBMC; 7:149744935, PBMC; 7:150020401, ACTR3C||Proximal Promoter:357, C7orf29||5' Proximal Enhancer:-6536, PBMC; 7:150038502, C7orf29||3' Proximal Enhancer:11565, LRRC61||3' Proximal Enhancer:18207, PBMC; 7:150038598, C7orf29||3' Proximal Enhancer:11661, LRRC61||3' Proximal Enhancer:18303, PBMC; 7:150264284, GIMAP4||Proximal Promoter:-173, PBMC; 7:150264311, GIMAP4||Proximal Promoter:-146, PBMC; 7:150264767, GIMAP4||Proximal Promoter:310, PBMC; 7:150412715, GIMAP1|GIMAP1-GIMAP5||Proximal Promoter:-929, PBMC; 7:150498594, TMEM176A||Intron 1:741, TMEM176B||Proximal Promoter:-973|Proximal Promoter:-146, PBMC; 7:151079167, NUB1||3' Proximal Enhancer:40321, WDR86||Intron 4:27957, PBMC; 7:1515564, INTS1||Intron

39:28454, PBMC; 7:152621979, PBMC; 7:153446106, PBMC; 7:153583318, DPP6||Proximal Promoter:-1100, PBMC; 7:153583867, DPP6||Proximal Promoter:-551, PBMC; 7:153584597, DPP6||Proximal Promoter:179, PBMC; 7:153584839, DPP6||Proximal Promoter:421, PBMC; 7:153584873, DPP6||Proximal Promoter:455, PBMC; 7:153585368, DPP6||Intron 1:950, PBMC; 7:153749206, DPP6||Proximal Promoter:-570|Intron 1:164788, PBMC; 7:153749736, DPP6||Proximal Promoter:-40|Intron 1:165318, PBMC; 7:154002270, DPP6||Proximal Promoter:-76|Intron 1:252494|Intron 1:417852, PBMC; 7:154998107, PBMC; 7:1553203, INTS1||5' Proximal Enhancer:-9185, PBMC; 7:155325552, CNPY1||Intron 1:987, PBMC; 7:155724270, PBMC; 7:155790392, PBMC; 7:155791233, PBMC; 7:156400711, PBMC; 7:156400779, PBMC; 7:156400881, PBMC; 7:156814491, LOC645249||3' Proximal Enhancer:10941, PBMC; 7:156931170, UBE3C||Proximal Promoter:-484, PBMC; 7:157072526, PBMC; 7:157474921, PBMC; 7:157475548, PBMC; 7:157475692, PBMC; 7:157477846, PBMC; 7:157667853, LOC100506585||3' Proximal Enhancer:20577, PBMC; 7:158098282, PBMC; 7:158129424, PBMC; 7:158243632, PBMC; 7:158250911, PBMC; 7:158250978, PBMC; 7:158342283, PBMC; 7:158607898, ESYT2||Intron 1:14421, PBMC; 7:158750384, PBMC; 7:158750985, PBMC; 7:158751184, PBMC; 7:158770241, PBMC; 7:158790006, PBMC; 7:158799041, LOC154822||Proximal Promoter:-2003, PBMC; 7:158809128, LOC154822||Intron 1:8084, PBMC; 7:158823799, LOC154822||3' Proximal Enhancer:22755, VIPR2||Intron 12:113850, PBMC; 7:158937969, VIPR2||Proximal Promoter:-320, PBMC; 7:1616229, KIAA1908||Intron 3:6521, PSMG3||5' Proximal Enhancer:-6600|5' Proximal Enhancer:-6561, PBMC; 7:16505664, SOSTDC1||Proximal Promoter:-190, PBMC; 7:1708566, PBMC; 7:1708823, PBMC; 7:1923695, PBMC; 7:1944627, PBMC; 7:1961968, PBMC; 7:20824706, SP8||Exon 3:1802, PBMC; 7:2082529, PBMC; 7:20829502, SP8||Distal Promoter:-2994, PBMC; 7:2106404, PBMC; 7:22481962, STEAP1B||Intron 4:57939, PBMC; 7:2288716, FTSJ2||5' Proximal Enhancer:-6883, NUDT1||Intron 2:6177|Intron 3:6821|Intron 3:6860, PBMC; 7:2289097, FTSJ2||5' Proximal Enhancer:-7264, NUDT1||Intron 2:6558|Intron 3:7202|Intron 3:7241, PBMC; 7:24323559, NPY||Proximal Promoter:-247, PBMC; 7:2444010, CHST12||Intron 1:816, PBMC; 7:2444534, CHST12||Intron 1:1340, PBMC; 7:2445331, CHST12||Intron 1:2137, PBMC; 7:24614348, MPP6||Intron 1:1264, PBMC; 7:25015862, OSBPL3||Intron 1:3898, PBMC; 7:26897182, SKAP2||Intron 1:7159, PBMC; 7:26897597, SKAP2||Intron 1:6744, PBMC; 7:2705189, TTYH3||3' Proximal Enhancer:33587, PBMC; 7:27142100, HOTAIRM1||3' Proximal Enhancer:6388, HOXA1||5' Proximal Enhancer:-6475, PBMC; 7:27187502, HOXA5||Distal Promoter:-4215, HOXA6||Proximal Promoter:-109, PBMC; 7:27187560, HOXA5||Distal Promoter:-4273, HOXA6||Proximal Promoter:-167, PBMC; 7:27206073, HOXA10||3' Proximal Enhancer:7882|3' Proximal Enhancer:13807, HOXA10-HOXA9||Intron 1:13807, PBMC; 7:27211117, HOXA10||Exon 2:2838|Exon 2:8763, HOXA10-HOXA9||Intron 1:8763, PBMC; 7:27211741, HOXA10||Exon 2:2214|Exon 2:8139, HOXA10-HOXA9||Intron 1:8139, PBMC; 7:27225319, HOXA10||5' Proximal Enhancer:-5439, HOXA11||Proximal Promoter:-484, PBMC; 7:27236674, HOTTIP||Distal Promoter:-3365, HOXA11-AS1||3' Proximal Enhancer:11648, PBMC; 7:27237289, HOTTIP||Distal Promoter:-2750, HOXA11-AS1||3' Proximal Enhancer:12263, PBMC; 7:27284789, EVX1||Exon 2:2626, PBMC; 7:27475596, PBMC; 7:28574260, CREB5||Intron 4:99027|Intron 4:122117|Intron 3:235321, PBMC; 7:28666703, CREB5||Intron 5:191470|Intron 5:214560|Intron 4:327764, PBMC; 7:28996639, TRIL||Exon 1:1390, PBMC; 7:2962240, CARD11||Intron 17:121269, PBMC; 7:29689036, LOC646762||Exon 2:35718, PBMC; 7:29846259, WIPF3||Proximal Promoter:90, PBMC; 7:29847171, WIPF3||Intron 1:1002, PBMC; 7:31425682, PBMC; 7:32497799, LOC100130673||Proximal Promoter:307, PBMC; 7:32801268, LOC401321||Exon 1:3371, PBMC; 7:3488816, SDK1||Intron 1:147737, PBMC; 7:35078097, DPY19L1||Proximal Promoter:-444, PBMC; 7:38403507, LOC100506776||Intron 3:22330, PBMC; 7:39125198, POU6F2||Intron 2:107590, PBMC; 7:39874082, PBMC; 7:42278089, GLI3||Proximal Promoter:-1471, PBMC; 7:4244372, SDK1||Intron 9:75056|Intron 35:903293, PBMC; 7:42533414, PBMC; 7:43803803, BLVRA||Intron 2:5532, PBMC; 7:43965451, UBE2D4||Proximal Promoter:-583, URGCP||Intron 1:545, PBMC; 7:44104584, DBNL||3' Proximal Enhancer:20346, PGAM2||Exon 2:602, PBMC; 7:44104860, DBNL||3' Proximal Enhancer:20622, PGAM2||Proximal Promoter:326, PBMC; 7:44105050, DBNL||3' Proximal Enhancer:20812, PGAM2||Proximal Promoter:136, PBMC; 7:44105338, DBNL||3' Proximal Enhancer:21100, PGAM2||Proximal Promoter:-152, PBMC; 7:44105721, DBNL||3' Proximal Enhancer:21483, PGAM2||Proximal Promoter:-535, PBMC; 7:45613725, ADCY1||Proximal Promoter:-399, PBMC; 7:47576580, 7:47576580, TNS3||Intron 1:45162, PBMC; 7:47621692, TNS3||Proximal Promoter:50, PBMC; 7:48127997, UPP1||Proximal Promoter:-748|Proximal Promoter:-357, PBMC; 7:4921827, PBMC; 7:49813763, 7:49813763, VWC2||Intron 1:507, PBMC; 7:50109467, ZPBP||Intron 3:23393, PBMC; 7:50343131, IKZF1||Proximal Promoter:-1246, PBMC; 7:50343298, IKZF1||Proximal Promoter:-1079, PBMC; 7:50464661, IKZF1||Intron 7:120284, PBMC; 7:51544518, PBMC; 7:51798400, PBMC; 7:5458719, TNRC18||Intron 2:4458, PBMC; 7:54610320,

VSTM2A||Proximal Promoter:302, PBMC; 7:54612333, VSTM2A||Exon 2:2315, PBMC; 7:55001134, PBMC; 7:55141971, EGFR||Intron 1:55247, PBMC; 7:5528179, FBXL18||Intron 4:25220, MIR589||3' Proximal Enhancer:7369, PBMC; 7:56183584, CHCHD2||5' Proximal Enhancer:-9397, LOC389493||Intron 1:506, PBMC; 7:56243524, PBMC; 7:56355681, PBMC; 7:56446176, PBMC; 7:56516129, LOC650226||Proximal Promoter:-61, PBMC; 7:56516309, LOC650226||Proximal Promoter:-241, PBMC; 7:56957346, LOC100130849||5' Proximal Enhancer:-7507, PBMC; 7:57475905, MIR3147||3' Proximal Enhancer:3175, PBMC; 7:57928998, PBMC; 7:61971401, PBMC; 7:623846, PRKAR1B||Intron 8:128315|Intron 8:128731|Intron 8:128998|Intron 8:143132|Intron 8:143467, PBMC; 7:6268584, 7:6268584, CYTH3||Intron 1:43658, PBMC; 7:63085215, MIR4283-1|MIR4283-2||3' Proximal Enhancer:3748, PBMC; 7:63250817, PBMC; 7:63505714, ZNF727||Proximal Promoter:-106, PBMC; 7:64126140, ZNF107||Proximal Promoter:-370, PBMC; 7:643155, PRKAR1B||Intron 6:109006|Intron 6:109422|Intron 6:109689|Intron 6:123823|Intron 6:124158, PBMC; 7:64342997, PBMC; 7:64343315, PBMC; 7:64348740, PBMC; 7:64541193, CCT6P3||3' Proximal Enhancer:42462, PBMC; 7:64541387, CCT6P3||3' Proximal Enhancer:42656, PBMC; 7:64712472, PBMC; 7:6568678, GRID2IP||Intron 2:22389, PBMC; 7:6570247, GRID2IP||Intron 2:20820, PBMC; 7:65746852, TPST1||Intron 2:76594, PBMC; 7:6617264, ZDHHC4||Proximal Promoter:200, PBMC; 7:66785137, STAG3L4||Exon 6:17513, PBMC; 7:70597058, WBSCR17||Proximal Promoter:-730, PBMC; 7:72723152, NSUN5||Proximal Promoter:-288, TRIM50||3' Proximal Enhancer:18933, PBMC; 7:72813978, PBMC; 7:73183394, CLDN3||Exon 1:1206, PBMC; 7:73703236, 7:73703236, CLIP2||Proximal Promoter:-568, PBMC; 7:74202486, GTF2IRD2||3' Proximal Enhancer:65355, NCF1||Intron 9:14178, PBMC; 7:75780412, PBMC; 7:75912349, SRRM3||Exon 14:81134, PBMC; 7:76109396, DTX2||Proximal Promoter:-430|Intron 3:18425, FDPSL2A||5' Proximal Enhancer:-5079, PBMC; 7:76221076, LOC100133091||Intron 2:42419, PBMC; 7:766100, HEATR2||Proximal Promoter:-237, PRKAR1B||Intron 1:878|Intron 1:1213, PBMC; 7:766104, HEATR2||Proximal Promoter:-233, PRKAR1B||Intron 1:874|Intron 1:1209, PBMC; 7:76624761, DTX2P1-UPK3BP1-PMS2P11||Intron 2:14623, PBMC; 7:79083056, MAGI2-AS3||Proximal Promoter:-219|Intron 2:784, PBMC; 7:80547689, 7:80547689, SEMA3C||Intron 1:978, PBMC; 7:826027, HEATR2||Exon 13:59690, PBMC; 7:84814683, PBMC; 7:86782435, DMTF1||Intron 1:566|Intron 1:759, PBMC; 7:87258360, ABCB1||Intron 1:84279, RUNDC3B||Intron 1:632, PBMC; 7:89748674, DPY19L2P4||Proximal Promoter:-39, PBMC; 7:89748676, DPY19L2P4||Proximal Promoter:-37, PBMC; 7:89748686, DPY19L2P4||Proximal Promoter:-27, PBMC; 7:93960063, PBMC; 7:94023483, COL1A2||Proximal Promoter:-389, PBMC; 7:94954059, PON1||Proximal Promoter:-175, PBMC; 7:960528, ADAP1||Intron 3:33761, PBMC; 7:963768, ADAP1||Intron 3:30521, PBMC; 7:965485, ADAP1||Intron 3:28804, PBMC; 7:965534, ADAP1||Intron 3:28755, PBMC; 7:96622608, DLX6-AS1||Intron 1:20769, PBMC; 7:97401062, PBMC; 7:98739698, SMURF1||Intron 1:2045, PBMC; 7:98739782, SMURF1||Intron 1:1961, PBMC; 7:98784083, KPNA7||Intron 6:21006, PBMC; 7:98990626, ARPC1B||Intron 8:18329, PDAP1||3' Proximal Enhancer:15679, PBMC; 7:98990837, ARPC1B||Intron 8:18540, PDAP1||3' Proximal Enhancer:15468, PBMC; 7:99195788, LOC100289187||Proximal Promoter:-113, PBMC; 7:99195819, LOC100289187||Proximal Promoter:-82, PBMC; 8:100649114, PBMC; 8:101118512, RGS22||Proximal Promoter:-168, PBMC; 8:101177733, SPAG1||Intron 2:7171|Intron 2:7471, PBMC; 8:101224915, SPAG1||Intron 10:54353|Intron 10:54653, PBMC; 8:101225078, SPAG1||Intron 10:54516|Intron 10:54816, PBMC; 8:103137229, NCALD||Proximal Promoter:-667|Proximal Promoter:-94, PBMC; 8:10339410, PBMC; 8:10405250, PRSS55||Intron 4:22195, PBMC; 8:104153627, BAALC||Intron 1:707, C8orf56||Proximal Promoter:-57, PBMC; 8:105342491, TM7SF4||5' Proximal Enhancer:-9562, PBMC; 8:10786308, XKR6||Intron 1:272567, PBMC; 8:108511174, ANGPT1||Proximal Promoter:-920, PBMC; 8:109096151, RSPO2||Proximal Promoter:-238, PBMC; 8:11421337, BLK||Intron 12:69817, PBMC; 8:11421594, BLK||Exon 13:70074, PBMC; 8:11422167, BLK||3' Proximal Enhancer:70647, PBMC; 8:11666485, FDFT1||Intron 2:6296, PBMC; 8:117950244, C8orf85||Proximal Promoter:-219, PBMC; 8:11973495, FAM66D||Proximal Promoter:205, ZNF705D||3' Proximal Enhancer:26649, PBMC; 8:119750651, PBMC; 8:120220856, MAL2||Proximal Promoter:247, PBMC; 8:120220882, MAL2||Proximal Promoter:273, PBMC; 8:12219732, FAM66A||Proximal Promoter:205, PBMC; 8:123795433, ZHX2||Intron 1:1533, PBMC; 8:123819362, ZHX2||Intron 1:25462, PBMC; 8:1238536, LOC286083||3' Proximal Enhancer:12291, PBMC; 8:124688770, ANXA13||3' Proximal Enhancer:60877, PBMC; 8:126011954, SQLE||Intron 1:1235, PBMC; 8:126446923, TRIB1||Intron 2:4361, PBMC; 8:128235836, PBMC; 8:128930166, PBMC; 8:128931535, PBMC; 8:13134144, DLC1||Intron 5:238285, PBMC; 8:13134166, DLC1||Intron 5:238263, PBMC; 8:131457460, PBMC; 8:13209750, DLC1||Intron 4:162679, PBMC; 8:1327546, PBMC; 8:133118481, HHLA1||Proximal Promoter:-969, PBMC; 8:13424389, C8orf48||Proximal Promoter:38, PBMC; 8:135056370, PBMC; 8:135726252, PBMC; 8:139977703, PBMC; 8:1400221, PBMC; 8:140927030, TRAPPC9||Intron 19:540831|Intron 19:541648, PBMC; 8:142139187,

DENND3||Proximal Promoter:468, PBMC; 8:142239716, SLC45A4||Proximal Promoter:-1043, PBMC; 8:142283564, PBMC; 8:142413013, PBMC; 8:1424626, PBMC; 8:143376371, TSNARE1||Intron 10:108172, PBMC; 8:143545574, BAI1||Proximal Promoter:198, PBMC; 8:143580823, BAI1||Intron 16:35447, PBMC; 8:143580965, BAI1||Intron 16:35589, PBMC; 8:143581070, BAI1||Intron 16:35694, PBMC; 8:143581481, BAI1||Intron 16:36105, PBMC; 8:143592375, BAI1||Exon 17:46999, PBMC; 8:143695529, ARC||Proximal Promoter:304, PBMC; 8:143762866, PSCA||Intron 2:993|Intron 2:11141, PBMC; 8:144120484, C8orf31||Proximal Promoter:-194, PBMC; 8:144120681, C8orf31||Proximal Promoter:3, PBMC; 8:144152376, PBMC; 8:144512773, MAFA||Proximal Promoter:-171, ZC3H3||3' Proximal Enhancer:110847, PBMC; 8:144543486, ZC3H3||Intron 9:80134, PBMC; 8:144543750, 8:144543750, ZC3H3||Intron 9:79870, PBMC; 8:144599125, ZC3H3||Intron 3:24495, PBMC; 8:144636462, GSDMD||Distal Promoter:-4014|Intron 1:906, PBMC; 8:144870535, SCRIB||3' Proximal Enhancer:27014, PBMC; 8:144952929, EPPK1||5' Proximal Enhancer:-5495, PBMC; 8:145003776, PLEC||Intron 23:9982|Intron 23:12916|Intron 23:14334|Intron 23:15129|Intron 23:21268|Intron 23:24312|Intron 23:43921|Intron 24:47137, PBMC; 8:145008110, PLEC||Intron 12:5648|Intron 12:8582|Intron 12:10000|Intron 12:10795|Intron 12:16934|Intron 12:19978|Intron 12:39587|Intron 13:42803, PBMC; 8:145008288, PLEC||Intron 11:5470|Intron 11:8404|Intron 11:9822|Intron 11:10617|Intron 11:16756|Intron 11:19800|Intron 11:39409|Intron 12:42625, PBMC; 8:145008397, PLEC||Intron 11:5361|Intron 11:8295|Intron 11:9713|Intron 11:10508|Intron 11:16647|Intron 11:19691|Intron 11:39300|Intron 12:42516, PBMC; 8:145008909, PLEC||Intron 9:4849|Intron 9:7783|Intron 9:9201|Intron 9:9996|Intron 9:16135|Intron 9:19179|Intron 9:38788|Intron 10:42004, PBMC; 8:145015964, MIR661||3' Proximal Enhancer:3483, PLEC||Proximal Promoter:-2206|Intron 1:728|Intron 1:2146|Intron 1:2941|Intron 1:9080|Intron 1:12124|Intron 1:31733|Intron 2:34949, PBMC; 8:145028230, MIR661||5' Proximal Enhancer:-8783, PLEC||5' Proximal Enhancer:-9325|Distal Promoter:-3186|Proximal Promoter:-142|Intron 1:19467|Intron 2:22683, PBMC; 8:145028257, MIR661||5' Proximal Enhancer:-8810, PLEC||5' Proximal Enhancer:-9352|Distal Promoter:-3213|Proximal Promoter:-169|Intron 1:19440|Intron 2:22656, PBMC; 8:145029603, PBMC; 8:145047469, PARP10||3' Proximal Enhancer:13166, PBMC; 8:145048137, PARP10||3' Proximal Enhancer:12498, PBMC; 8:1455764, 8:1455764, DLGAP2||Intron 1:6196, PBMC; 8:145579317, C8ORFK29||Proximal Promoter:-812|Proximal Promoter:-743, FBXL6||Exon 9:2866, PBMC; 8:145726136, GPT||Distal Promoter:-3328, MFSD3||5' Proximal Enhancer:-8415, PBMC; 8:145825518, ARHGAP39||Intron 3:13370, PBMC; 8:145939129, 8:145939129, ZNF251||3' Proximal Enhancer:41841, PBMC; 8:15807734, PBMC; 8:17471997, PDGFRL||Intron 3:38056, PBMC; 8:17785204, PCM1||Intron 2:4839, PBMC; 8:1893887, 8:1893887, ARHGEF10||Intron 27:121739, PBMC; 8:19203257, SH2D4A||Intron 4:31771|Intron 4:32177, PBMC; 8:19459672, CSGALNACT1||Proximal Promoter:384|Intron 1:80422|Intron 1:80589, PBMC; 8:19797965, LPL||Intron 1:1384, PBMC; 8:2002012, MYOM2||Intron 3:8855, PBMC; 8:20109523, LZTS1||Intron 2:3280, PBMC; 8:2034467, MYOM2||Intron 14:41310, PBMC; 8:2037874, 8:2037874, MYOM2||Exon 15:44717, PBMC; 8:2075777, MYOM2||Intron 31:82620, PBMC; 8:2075820, MYOM2||Intron 31:82663, PBMC; 8:2078112, MYOM2||Intron 32:84955, PBMC; 8:21996639, HR||5' Proximal Enhancer:-8074, LGI3||3' Proximal Enhancer:17705, PBMC; 8:22225668, SLC39A14||Intron 1:619|Intron 1:907, PBMC; 8:22500401, BIN3||Intron 2:26260, FLJ14107||Proximal Promoter:-679, PBMC; 8:22500449, BIN3||Intron 2:26212, FLJ14107||Proximal Promoter:-727, PBMC; 8:22500482, BIN3||Intron 2:26179, FLJ14107||Proximal Promoter:-760, PBMC; 8:23162162, LOXL2||Intron 10:99560, R3HCC1||3' Proximal Enhancer:16551, PBMC; 8:23312916, ENTPD4||Intron 1:2328, PBMC; 8:23557486, NKX2-6||3' Proximal Enhancer:6625, PBMC; 8:23605601, PBMC; 8:24772344, NEFM||Proximal Promoter:-110|Exon 1:1071, PBMC; 8:24772513, NEFM||Proximal Promoter:59|Intron 1:1240, PBMC; 8:24773268, NEFM||Intron 2:814|Intron 2:1995, PBMC; 8:2585666, PBMC; 8:27144085, TRIM35||Exon 6:24749, PBMC; 8:27491623, 8:27491623, SCARA3||Proximal Promoter:47, PBMC; 8:28258603, PBMC; 8:29589696, C8orf75||Intron 1:15929, PBMC; 8:29937472, MIR548O2||Intron 1:170741, TMEM66||Intron 1:3177, PBMC; 8:33432330, RNF122||5' Proximal Enhancer:-7687, PBMC; 8:337367, PBMC; 8:39172020, ADAM5P||Proximal Promoter:-161, PBMC; 8:39172022, ADAM5P||Proximal Promoter:-159, PBMC; 8:41365362, GOLGA7||Intron 4:17190|Intron 5:17282, PBMC; 8:41400312, GINS4||Exon 8:13588, PBMC; 8:41585554, PBMC; 8:41624841, PBMC; 8:42128252, IKBKB||Proximal Promoter:-567, PBMC; 8:47751494, LINC00293||Proximal Promoter:-1013, PBMC; 8:4849522, CSMD1||Intron 1:2806, PBMC; 8:48675647, PBMC; 8:49044542, PBMC; 8:49414279, PBMC; 8:496327, C8orf42||Proximal Promoter:-1482|Proximal Promoter:-546, PBMC; 8:49647809, EFCAB1||Proximal Promoter:61, PBMC; 8:53326618, ST18||Distal Promoter:-4179, PBMC; 8:53478454, FAM150A||Proximal Promoter:-433, PBMC; 8:54522246, PBMC; 8:54791151, RGS20||Proximal Promoter:-2290|Intron 1:26784, PBMC; 8:55370429, SOX17||Proximal Promoter:-65, PBMC; 8:55471698, PBMC; 8:56014406, XKR4||Proximal Promoter:-610, PBMC; 8:56015399, XKR4||Proximal Promoter:383, PBMC;

8:58055024, PBMC; 8:59058254, FAM110B||Intron 4:151142, PBMC; 8:59058273, FAM110B||Intron 4:151161, PBMC; 8:61777711, CHD7||Exon 38:186388, PBMC; 8:61777859, CHD7||Exon 38:186536, PBMC; 8:61880392, LOC100130298||Proximal Promoter:-85, PBMC; 8:652315, ERICH1||Intron 2:28911, PBMC; 8:66474918, LOC286186||Proximal Promoter:-17, PBMC; 8:67628165, 8:67628165, C8orf44-SGK3||Intron 3:48379, SGK3||Intron 1:3513, PBMC; 8:67873343, TCF24||Intron 3:1482, PBMC; 8:68251877, ARFGEF1||Intron 1:4035, PBMC; 8:68864529, PREX2||Proximal Promoter:-73, PBMC; 8:7079106, PBMC; 8:71127379, NCOA2||Intron 3:188641, PBMC; 8:71527496, LOC286190||Intron 1:6685, TRAM1||5' Proximal Enhancer:-6802, PBMC; 8:72468820, PBMC; 8:7720259, SPAG11A||Intron 3:14858, PBMC; 8:773887, PBMC; 8:7812741, FAM66E||Proximal Promoter:207, LOC100132396||3' Proximal Enhancer:28883, PBMC; 8:80550161, STMN2||Intron 2:27113, PBMC; 8:80678770, HEY1||Intron 4:1328, PBMC; 8:80783997, PBMC; 8:81177099, PBMC; 8:82002977, PAG1||Intron 1:21326, PBMC; 8:8559999, CLDN23||Proximal Promoter:334, PBMC; 8:8560427, CLDN23||Exon 1:762, PBMC; 8:8580453, PBMC; 8:86351018, CA3||Proximal Promoter:-37, PBMC; 8:8761750, PBMC; 8:89300240, MMP16||Intron 1:39477, PBMC; 8:90776474, RIPK2||Intron 2:6500, PBMC; 8:90913896, OSGIN2||Proximal Promoter:-865|Proximal Promoter:-199, PBMC; 8:91017761, 8:91017761, DECR1||Intron 1:4182, PBMC; 8:91681699, PBMC; 8:92053404, TMEM55A||Proximal Promoter:-201, PBMC; 8:92053433, TMEM55A||Proximal Promoter:-230, PBMC; 8:92570895, PBMC; 8:95959531, TP53INP1||Intron 1:2084, PBMC; 8:95962084, TP53INP1||Proximal Promoter:-469, PBMC; 8:964076, PBMC; 8:980822, PBMC; 8:99126378, HRSP12||Intron 1:3040, POP1||Distal Promoter:-3689|Distal Promoter:-3142, PBMC; 9:100681080, C9orf156||Intron 1:3772, HEMGN||3' Proximal Enhancer:19446|3' Proximal Enhancer:26054, PBMC; 9:100850391, NANS||3' Proximal Enhancer:31433, TRIM14||Intron 5:31089|Intron 5:31097, PBMC; 9:100883593, CORO2A||Exon 12:51581|Exon 12:71363, TRIM14||Proximal Promoter:-2113|Proximal Promoter:-2105, PBMC; 9:102588232, NR4A3||Intron 2:4096, PBMC; 9:1051505, DMRT2||Intron 1:886|Intron 2:1152|Intron 1:1160, PBMC; 9:1052573, DMRT2||Intron 2:1954|Intron 3:2220|Intron 2:2228, PBMC; 9:111880884, PBMC; 9:111929547, C9orf4||Proximal Promoter:24, EPB41L4B||3' Proximal Enhancer:153474, PBMC; 9:114838, CBWD1||3' Proximal Enhancer:64237, FOXD4||3' Proximal Enhancer:3579, PBMC; 9:114937740, MIR3134||Intron 3:174805, SUSD1||Proximal Promoter:-184, PBMC; 9:115821352, ZFP37||Proximal Promoter:-2356, PBMC; 9:115822072, ZFP37||Distal Promoter:-3076, PBMC; 9:115824717, ZFP37||5' Proximal Enhancer:-5721, PBMC; 9:115835613, PBMC; 9:115835616, PBMC; 9:115837453, PBMC; 9:115841081, PBMC; 9:115851255, PBMC; 9:115851944, PBMC; 9:115851947, PBMC; 9:116860500, KIF12||Intron 1:837, PBMC; 9:118687943, LINC00474||Proximal Promoter:-566, PBMC; 9:122521448, PBMC; 9:123689193, TRAF1||Proximal Promoter:-20|Intron 1:2258, PBMC; 9:124131165, 9:124131165, STOM||Intron 1:1380, PBMC; 9:124982834, LHX6||Intron 1:1185|Intron 3:7031|Intron 4:7873|Intron 4:8257, PBMC; 9:124983482, LHX6||Exon 1:537|Intron 3:6383|Intron 4:7225|Intron 4:7609, PBMC; 9:124988720, LHX6||Distal Promoter:-4701|Exon 3:1145|Exon 4:1987|Exon 4:2371, PBMC; 9:124989294, LHX6||5' Proximal Enhancer:-5275|Exon 2:571|Exon 3:1413|Exon 3:1797, PBMC; 9:124989337, LHX6||5' Proximal Enhancer:-5318|Intron 1:528|Intron 2:1370|Intron 2:1754, PBMC; 9:124989915, LHX6||5' Proximal Enhancer:-5896|Proximal Promoter:-50|Intron 1:792|Intron 1:1176, PBMC; 9:124990165, LHX6||5' Proximal Enhancer:-6146|Proximal Promoter:-300|Intron 1:542|Intron 1:926, PBMC; 9:124990276, LHX6||5' Proximal Enhancer:-6257|Proximal Promoter:-411|Proximal Promoter:431|Intron 1:815, PBMC; 9:126135169, CRB2||Intron 9:16722, DENND1A||3' Proximal Enhancer:557248, PBMC; 9:127531952, OLFML2A||5' Proximal Enhancer:-7484, PBMC; 9:129376508, LMX1B||Proximal Promoter:-213, PBMC; 9:129377854, LMX1B||Intron 2:1133, PBMC; 9:130833354, NAIF1||Distal Promoter:-3755, SLC25A25||Intron 1:2876, PBMC; 9:130868874, LOC100289019||3' Proximal Enhancer:12139, SLC25A25||Intron 8:8039|Intron 8:8058|Intron 8:14747|Intron 8:38396, PBMC; 9:130955135, CIZ1||Proximal Promoter:-1267|Intron 1:11527, PBMC; 9:130955380, CIZ1||Proximal Promoter:-1512|Intron 1:11282, PBMC; 9:130955436, CIZ1||Proximal Promoter:-1568|Intron 1:11226, PBMC; 9:131012953, DNM1||Intron 19:47291, GOLGA2||3' Proximal Enhancer:25315, PBMC; 9:132083538, 9:132083538, C9orf106||Proximal Promoter:244, PBMC; 9:132198822, PBMC; 9:132628998, USP20||Intron 10:31242|Intron 10:31303, PBMC; 9:132646360, FNBP1||3' Proximal Enhancer:159113, USP20||3' Proximal Enhancer:48604|3' Proximal Enhancer:48665, PBMC; 9:13279482, PBMC; 9:133534961, PRDM12||5' Proximal Enhancer:-5019, PBMC; 9:135114066, NTNG2||Intron 5:76733, PBMC; 9:135118406, NTNG2||3' Proximal Enhancer:81073, PBMC; 9:136102543, PBMC; 9:136397058, ADAMTSL2||Distal Promoter:-2916|Proximal Promoter:-227, TMEM8C||5' Proximal Enhancer:-6990, PBMC; 9:136474735, PBMC; 9:137691430, COL5A1||Intron 37:157779, PBMC; 9:138308135, PBMC; 9:138669066, KCNT1||Intron 20:75036, PBMC; 9:139551219, EGFL7||5' Proximal Enhancer:-9004|5' Proximal Enhancer:-6159, PBMC; 9:140056619, GRIN1||Intron 12:23011, LRRC26||3' Proximal Enhancer:7872, PBMC; 9:140061878, ANAPC2||3' Proximal Enhancer:21179,

GRIN1||Intron 20:28270, PBMC; 9:140062197, ANAPC2||3' Proximal Enhancer:20860, GRIN1||Intron 20:28589, PBMC; 9:140166114, C9orf167||5' Proximal Enhancer:-6165, COBRA1||Intron 10:16356, PBMC; 9:140247365, EXD3||Intron 10:70349, PBMC; 9:140771990, CACNA1B||Proximal Promoter:-250, PBMC; 9:140917413, CACNA1B||Intron 18:145173, PBMC; 9:140917431, CACNA1B||Intron 18:145191, PBMC; 9:141017001, CACNA1B||Exon 46:244761, PBMC; 9:141105974, FAM157B||Proximal Promoter:-662, PBMC; 9:17907018, PBMC; 9:20356459, MLLT3||Intron 8:266055, PBMC; 9:34810228, PBMC; 9:35096980, FAM214B||3' Proximal Enhancer:18913, PIGO||Proximal Promoter:-434|Proximal Promoter:-382, PBMC; 9:35490515, ATP8B5P||3' Proximal Enhancer:83751, RUSC2||Intron 1:509, PBMC; 9:36036514, RECK||Proximal Promoter:-395, PBMC; 9:36382242, RNF38||Intron 2:18054|Intron 2:18678|Intron 2:18953, PBMC; 9:38424431, IGFBPL1||Proximal Promoter:13, PBMC; 9:38622559, ANKRD18A||Proximal Promoter:-2199, FAM201A||Exon 2:1475, PBMC; 9:44743856, PBMC; 9:469777, DOCK8||3' Proximal Enhancer:196730|3' Proximal Enhancer:254913, PBMC; 9:6716417, 9:6716417, KDM4C||Distal Promoter:-4445, PBMC; 9:69148624, PGM5P2||Proximal Promoter:-770, PBMC; 9:74382743, TMEM2||Intron 1:1057, PBMC; 9:79792074, LOC100286938||Intron 1:759, VPS13A||Proximal Promoter:-286, PBMC; 9:81011730, PBMC; 9:82286351, TLE4||Intron 8:99474, PBMC; 9:88952877, ZCCHC6||Intron 9:16525, PBMC; 9:90341458, CTSL1||Proximal Promoter:485, PBMC; 9:90531866, FAM75C1||Proximal Promoter:-1010, PBMC; 9:90589530, CDK20||Proximal Promoter:165, PBMC; 9:91604088, C9orf47||Proximal Promoter:-1689, S1PR3||Proximal Promoter:-2273, PBMC; 9:94182501, NFIL3||Intron 1:3643, PBMC; 9:94476689, ROR2||3' Proximal Enhancer:235755, PBMC; 9:95473718, BICD2||Exon 8:53365, PBMC; 9:95889381, NINJ1||Intron 1:7189, PBMC; 9:96623111, PBMC; 9:96623480, PBMC; 9:96623674, PBMC; 9:971480, 9:971480, DMRT1||3' Proximal Enhancer:129791, DMRT3||5' Proximal Enhancer:-5483, PBMC; 9:98699195, C9orf102||Intron 11:61296, PBMC; 9:98981500, PBMC; 9:99449345, PBMC; 9:9998791, PTPRD||Intron 4:613932, PBMC; X:100307142, TRMT2B||Proximal Promoter:-37, PBMC; X:101381018, X:101381018, TCEAL2||Proximal Promoter:359, PBMC; X:101411275, BEX5||Proximal Promoter:-513|Proximal Promoter:-289, PBMC; X:102531965, TCEAL5||Proximal Promoter:-168, PBMC; X:103411092, FAM199X||Proximal Promoter:-63, PBMC; X:107980846, IRS4||Proximal Promoter:-1239, PBMC; X:110038954, CHRDL1||Proximal Promoter:122|Proximal Promoter:332, PBMC; X:110654011, DCX||Proximal Promoter:363|Intron 1:1408|Intron 1:1449, PBMC; X:111327399, X:111327399, ZCCHC16||Intron 1:1147, PBMC; X:113819977, HTR2C||Intron 1:1427, PBMC; X:114468833, PBMC; X:11684104, PBMC; X:117860789, IL13RA1||Proximal Promoter:-769, PBMC; X:117861092, IL13RA1||Proximal Promoter:-466, PBMC; X:117957489, ZCCHC12||Proximal Promoter:-297, PBMC; X:118824969, PBMC; X:118987153, UPF3B||Proximal Promoter:-162, PBMC; X:119150375, PBMC; X:119738550, MCTS1||Proximal Promoter:-1|Intron 1:807, PBMC; X:12155663, FRMPD4||Proximal Promoter:-921, PBMC; X:122993706, XIAP||Proximal Promoter:-310|Proximal Promoter:45, PBMC; X:12809608, PRPS2||Proximal Promoter:135, PBMC; X:128674224, OCRL||Proximal Promoter:-27, PBMC; X:129040481, UTP14A||Proximal Promoter:385, PBMC; X:129402929, ZNF280C||Proximal Promoter:-7, PBMC; X:133506724, X:133506724, PHF6||Proximal Promoter:-617, PBMC; X:135863582, ARHGEF6||Proximal Promoter:-79, PBMC; X:136627602, PBMC; X:13671523, TCEANC||Proximal Promoter:217, PBMC; X:144900190, CXorf1||5' Proximal Enhancer:-8737, SLITRK2||Distal Promoter:-2675|Intron 1:844, PBMC; X:150351493, GPR50||3' Proximal Enhancer:6438, PBMC; X:150863704, PRRG3||Distal Promoter:-3074|Proximal Promoter:-25, PBMC; X:152584950, PBMC; X:152938907, PNCK||Proximal Promoter:-164|Intron 1:909, PBMC; X:153152165, PBMC; X:153192582, ARHGAP4||Proximal Promoter:-868, NAA10||3' Proximal Enhancer:7886, PBMC; X:153238479, HCFC1||Proximal Promoter:-1660, MIR3202-1||5' Proximal Enhancer:-8068, PBMC; X:154563852, CLIC2||Proximal Promoter:134, PBMC; X:15768223, CA5B||Exon 2:11812, PBMC; X:15874162, AP1S2||Proximal Promoter:-1062, PBMC; X:18443256, CDKL5||Proximal Promoter:-468, PBMC; X:21676081, CNKSR2||3' Proximal Enhancer:283546, KLHL34||Proximal Promoter:367, PBMC; X:21858304, MBTPS2||Intron 1:649, PBMC; X:23352355, PTCHD1||Proximal Promoter:-629, PBMC; X:23799775, SAT1||Proximal Promoter:-1499, PBMC; X:25028057, ARX||Intron 3:6008, PBMC; X:30671410, GK||Proximal Promoter:-65, PBMC; X:3264853, MXRA5||Proximal Promoter:-169, PBMC; X:33229689, PBMC; X:39548267, PBMC; X:39958040, BCOR||Proximal Promoter:-1321|Intron 1:78542, PBMC; X:39964229, BCOR||5' Proximal Enhancer:-7510|Intron 1:72353, PBMC; X:40005822, BCOR||Intron 1:30760, PBMC; X:40012100, BCOR||Intron 1:24482, PBMC; X:40027674, BCOR||Intron 1:8908, PBMC; X:40031314, BCOR||Intron 1:5268, PBMC; X:40032180, BCOR||Intron 1:4402, PBMC; X:40035961, X:40035961, BCOR||Intron 1:621, PBMC; X:40126645, PBMC; X:42638571, X:42638571, PPP1R2P9||Proximal Promoter:-1085, PBMC; X:47930589, ZNF630||Proximal Promoter:-81|Proximal Promoter:412|Proximal Promoter:436, PBMC; X:48326779, FTSJ1||5' Proximal Enhancer:-9600|5' Proximal Enhancer:-7769, SLC38A5||Intron

2:1865, PBMC; X:49027884, MAGIX||3' Proximal Enhancer:7615|3' Proximal Enhancer:8704, PLP2||Proximal Promoter:-299, PBMC; X:51546021, MAGED1||Proximal Promoter:-133, PBMC; X:53350200, PBMC; X:56259243, KLF8||Proximal Promoter:374|Proximal Promoter:422, PBMC; X:6145096, NLGN4X||Intron 1:792|Intron 1:1610, PBMC; X:67914130, STARD8||Intron 1:649|Intron 2:46620, PBMC; X:68348465, PBMC; X:71351980, RGAG4||Proximal Promoter:-229, PBMC; X:71401206, PIN4||Proximal Promoter:-319, PBMC; X:71401536, PIN4||Proximal Promoter:11, PBMC; X:71525984, CITED1||Proximal Promoter:-220|Intron 1:853|Intron 1:1053, PBMC; X:71528050, CITED1||Proximal Promoter:-2286|Proximal Promoter:-1213|Proximal Promoter:-1013, PBMC; X:77041832, ATRX||Proximal Promoter:-113, PBMC; X:86772364, KLHL4||Proximal Promoter:-350, PBMC; X:95939323, DIAPH2||Proximal Promoter:-338, PBMC; X:9733544, GPR143||Proximal Promoter:461, PBMC; X:9753567, SHROOM2||Proximal Promoter:-928, PBMC; X:9753940, SHROOM2||Proximal Promoter:-555, PBMC; X:9754260, SHROOM2||Proximal Promoter:-235, PBMC; X:9754927, SHROOM2||Proximal Promoter:432, PBMC; X:9755283, SHROOM2||Intron 1:788, PBMC; X:99665401, PCDH19||Proximal Promoter:-130, PBMC;

Table 2B

Data are listed as "DML, optional associated gene||position relative to optional gene:distance of DML from transcription start site in bases (multiple positions delimited by |), cell population(s) of origin;"

DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

10:101370592, SLC25A28||Exon 4:9629, PBMC; 10:101468959, COX15||Exon 9:23464, ENTPD7||Exon 13:49697, PBMC; 10:102822249, KAZALD1||Intron 1:1251, PBMC; 10:103875961, LDB1||Intron 1:4249|Proximal Promoter:-1238, PBMC; 10:104182753, CUEDC2||3' Proximal Enhancer:9670, FBXL15||Exon 4:3183, PSD||Distal Promoter:-3852, PBMC; 10:105560568, Monocyte; 10:11047271, CELF2||Proximal Promoter:13, Tcell; 10:111693923, Tcell; 10:112375475, PBMC,Tcell; 10:114394236, MIR4295||Proximal Promoter:308, VTI1A||Intron 5:187481, PBMC; 10:116285554, ABLIM1||Intron 1:1131|Intron 6:132504|Intron 6:158860, Tcell; 10:11789383, ECHDC3||Exon 2:5028, Tcell; 10:118654150, KIAA1598||Intron 14:Intron 16:110938, Whole Blood; 10:120489658, C10orf46||Intron 2:25100, Monocyte,PBMC; 10:121413182, BAG3||Intron 1:2301, Tcell; 10:124181965, MIR3941||3' Proximal Enhancer:5485, PLEKHA1||Intron 8:30147|Intron 8:47872|Intron 9:36381, Bcell; 10:124514711, FLJ46361||Proximal Promoter:-1498, Monocyte; 10:124908747, BUB3||5' Proximal Enhancer:-5012, HMX2||Intron 1:1110, Tcell; 10:125805493, CHST15||Exon 2:46437, Monocyte; 10:125805592, CHST15||Exon 2:46338, Monocyte; 10:126135176, NKX1-2||3' Proximal Enhancer:3374, Whole Blood; 10:126301281, FAM53B||3' Proximal Enhancer:131649, LHPP||Intron 5:Intron 6:150941, Monocyte; 10:126308552, FAM53B||Exon 5:124378, LHPP||3' Proximal Enhancer:158212, Tcell; 10:126428818, FAM53B||Intron 1:4112, Tcell; 10:129197384, Whole Blood; 10:129232405, Monocyte; 10:131568313, MGMT||3' Proximal Enhancer:302860, PBMC; 10:133978450, JAKMIP3||Intron 20:60138, Whole Blood; 10:134672797, TTC40||Intron 37:83292, Whole Blood; 10:134843775, Whole Blood; 10:134917911, GPR123||Intron 5:16503, Whole Blood; 10:135091431, ADAM8||Proximal Promoter:-1024, TUBGCP2||3' Proximal Enhancer:31213, PBMC; 10:135123764, TUBGCP2||Proximal Promoter:-1120, ZNF511||Exon 4:1342, Monocyte; 10:135127558, TUBGCP2||Distal Promoter:-4914, ZNF511||3' Proximal Enhancer:5136, PBMC; 10:135127579, TUBGCP2||Distal Promoter:-4935, ZNF511||3' Proximal Enhancer:5157, PBMC,Tcell; 10:135343248, CYP2E1||Intron 2:2382, Whole Blood; 10:13545875, BEND7||Proximal Promoter:-899, Monocyte; 10:13831250, FRMD4A||Intron 5:541616, PBMC,Tcell; 10:1411072, ADARB2||Intron 2:368598, Whole Blood; 10:15016559, MEIG1||3' Proximal Enhancer:15122, Whole Blood; 10:16986391, CUBN||Intron 36:185425, Monocyte; 10:21463858, PBMC; 10:22606072, BMI1||Distal Promoter:-4066, COMMD3||, COMMD3-BMI1||, Tcell; 10:22612797, BMI1||Intron 1:2659, COMMD3||3' Proximal Enhancer:7486, COMMD3-BMI1||Intron 5:7486, Tcell; 10:2543763, Whole Blood; 10:26531942, GAD2||Intron 7:26707, Whole Blood; 10:27546458, LOC387646||5' Proximal Enhancer:-5223, Whole Blood; 10:29924694, Tcell; 10:29991884, Tcell; 10:30305684, KIAA1462||Exon 4:42804, Monocyte; 10:30711382, Monocyte;

10:32345864, KIF5B||Proximal Promoter:-493, Monocyte; 10:32345866, KIF5B||Proximal Promoter:-495, Tcell; 10:33294358, Tcell; 10:34344580, PBMC; 10:35419996, CREM||5' Proximal Enhancer:-6713|Intron 1:3612|Intron 1:4228, PBMC,Tcell; 10:35483963, CREM||Intron 1:Intron 5:68195|Intron 3:Intron 4:19449|Intron 3:Intron 4:27497|Intron 4:Intron 5:57254|Intron 4:Intron 6:67579|Proximal Promoter:-866|Proximal Promoter:-91, Tcell; 10:375391, DIP2C||Exon 30:360217, Monocyte; 10:375830, DIP2C||Intron 29:359778, Monocyte; 10:3848384, Tcell; 10:42862876, LOC441666||Intron 1:617, Whole Blood; 10:42862978, LOC441666||Intron 1:515, Whole Blood; 10:42863068, LOC441666||Proximal Promoter:425, Whole Blood; 10:42863173, LOC441666||Proximal Promoter:320, Whole Blood; 10:42863444, LOC441666||Proximal Promoter:49, Whole Blood; 10:42863508, LOC441666||Proximal Promoter:-15, Whole Blood; 10:42863539, LOC441666||Proximal Promoter:-46, Whole Blood; 10:42863550, LOC441666||Proximal Promoter:-57, Whole Blood; 10:42863594, LOC441666||Proximal Promoter:-101, Whole Blood; 10:45798249, OR13A1||Exon 4:12807, Monocyte; 10:4868331, AKR1E2||Proximal Promoter:-70, Whole Blood; 10:593275, DIP2C||Intron 1:142333, Whole Blood; 10:63527012, C10orf107||3' Proximal Enhancer:104294, PBMC; 10:63540024, PBMC; 10:64385683, ZNF365||Intron 1:105477|Intron 5:251768, Monocyte; 10:64893214, NRBF2||Proximal Promoter:208, Whole Blood; 10:69372655, Tcell; 10:70319645, TET1||Proximal Promoter:-471, Whole Blood; 10:71596731, COL13A1||Intron 3:35088, Whole Blood; 10:73471699, C10orf105||Exon 2:25882|Exon 2:7879, CDH23||3' Proximal Enhancer:Intron 26:315009, PBMC; 10:73848830, ASCC1||3' Proximal Enhancer:126921|3' Proximal Enhancer:127037|3' Proximal Enhancer:127369|3' Proximal Enhancer:128062, SPOCK2||Proximal Promoter:-299|Proximal Promoter:-40, Bcell; 10:74076930, Tcell; 10:74860922, NUDT13||5' Proximal Enhancer:-9287, P4HA1||Distal Promoter:-4190, PBMC; 10:75351076, PBMC,Tcell; 10:80834947, LOC283050||5' Proximal Enhancer:-7742, ZMIZ1||Intron 1:6156, PBMC; 10:80890238, ZMIZ1||Intron 2:61447, Monocyte; 10:80897427, ZMIZ1||Intron 2:68636, Tcell; 10:81680307, LOC100288974||Intron 3:15654, MBL1P||Proximal Promoter:374, Whole Blood; 10:81946545, ANXA11||Intron 1:18783, Whole Blood; 10:89690234, PTEN||Intron 3:67040, Monocyte; 10:90031426, RNLS||3' Proximal Enhancer:311656, Monocyte; 10:90235224, RNLS||Intron 4:107858, Monocyte; 10:90641389, STAMBPL1||Intron 1:1364, PBMC; 10:90642003, STAMBPL1||Intron 1:1978, Tcell; 10:91173811, IFIT5||Proximal Promoter:-513, Bcell,Tcell,Whole Blood; 10:91175366, IFIT5||Intron 1:1042, Tcell,Whole Blood; 10:95363, TUBB8||Proximal Promoter:-185, Whole Blood; 10:97457068, TCTN3||Distal Promoter:-3168, Monocyte; 10:98062687, DNTT||Proximal Promoter:-1397, Monocyte; 10:99447399, AVPI1||Proximal Promoter:-384, Tcell; 11:1001560, AP2A2||Intron 15:75752, Whole Blood; 11:103305609, DYNC2H1||Intron 84:Intron 85:325450, Whole Blood; 11:104769087, CASP12||Proximal Promoter:310, LOC643733||3' Proximal Enhancer:19815, Tcell; 11:104789337, LOC643733||Proximal Promoter:-435, Tcell; 11:109842959, PBMC; 11:11169707, Tcell; 11:111809582, DIXDC1||Intron 1:1656, PBMC,Tcell; 11:113846937, HTR3A||Intron 1:1141|Proximal Promoter:-1284, Monocyte; 11:116801299, SIK3||Intron 3:167694, Tcell; 11:117698932, FXYD2||Distal Promoter:-3473|Proximal Promoter:-125, FXYD6||3' Proximal Enhancer:48814|3' Proximal Enhancer:49269, FXYD6-FXYD2||Intron 6:48814, Tcell; 11:117801332, TMPRSS13||Proximal Promoter:-1164, Tcell; 11:117957665, LOC100526771||Proximal Promoter:-157, TMPRSS4||Intron 1:9939, Tcell; 11:120197138, TMEM136||Intron 1:1301, Monocyte; 11:120197521, TMEM136||Intron 1:1684, Monocyte,PBMC; 11:121353563, SORL1||Intron 3:30652, PBMC; 11:121440849, SORL1||Intron 22:117938, Monocyte; 11:125326877, FEZ1||Intron 5:39329, PBMC; 11:128377252, ETS1||Intron 1:14953|Intron 3:80201, Bcell; 11:128419512, ETS1||Intron 3:37941, Monocyte; 11:129242530, BARX2||Distal Promoter:-3350, Tcell; 11:129731815, NFRKB||3' Proximal Enhancer:31089|3' Proximal Enhancer:33675, TMEM45B||3' Proximal Enhancer:46075, Tcell; 11:129793108, PRDM10||Intron 10:Intron 9:24409|Intron 13:Intron 14:79622, Monocyte; 11:129830237, PRDM10||Intron 2:42493, Monocyte; 11:129870648, LINC00167||Proximal Promoter:-1870, PRDM10||Intron 1:2082, Monocyte; 11:129973438, APLP2||Intron 1:32976|Intron 1:33723, Monocyte; 11:133902050, LOC100128239||Proximal Promoter:-116, Monocyte; 11:1412345, BRSK2||Intron 1:1217, Whole Blood; 11:1413093, BRSK2||Intron 1:1965, Whole Blood; 11:1413145, BRSK2||Intron 1:2017, Whole Blood; 11:1413282, BRSK2||Intron 1:2154, Whole Blood; 11:1413315, BRSK2||Intron 1:2187, Whole Blood; 11:1457153, BRSK2||Intron 1:46025, Whole Blood; 11:1457346, BRSK2||Exon 2:46218, Whole Blood; 11:1463541, BRSK2||Intron 4:52413, Whole Blood; 11:1463554, BRSK2||Intron 4:52426, Whole Blood; 11:1463620, BRSK2||Intron 4:52492, Whole Blood; 11:1463662, BRSK2||Intron 4:52534, Whole Blood; 11:1474841, BRSK2||Intron 15:63713, Whole Blood; 11:14927489, Tcell; 11:14927549, Tcell; 11:1682006, FAM99A||Distal Promoter:-4822, Whole Blood; 11:16834800, PLEKHA7||Intron 12:201163, PBMC; 11:18630052, LOC100506540||Intron 4:8702, SPTY2D1||Exon 6:25968, Monocyte; 11:19081590, MRGPRX2||Intron 1:638, Whole Blood; 11:1947791, TNNT3||Intron 5:Intron 7:6993, Whole Blood; 11:20384886, HTATIP2||Proximal Promoter:-344|Proximal

Promoter:-360|Proximal Promoter:-402|Proximal Promoter:-516|Proximal Promoter:-800, Whole Blood; 11:2077307, Whole Blood; 11:2181072, INS||Exon 2:Exon 3:1367, INS-IGF2||Intron 2:1367, TH||3' Proximal Enhancer:11963, Whole Blood; 11:2907672, CDKN1C||Proximal Promoter:-677, SLC22A18AS||3' Proximal Enhancer:17503, PBMC; 11:2949546, PHLDA2||Exon 2:1104, SLC22A18||3' Proximal Enhancer:26035|3' Proximal Enhancer:28596, PBMC; 11:2965028, NAP1L4||3' Proximal Enhancer:48579, PBMC; 11:296540, ATHL1||3' Proximal Enhancer:7403, IFITM5||3' Proximal Enhancer:2986, Monocyte; 11:3174092, OSBPL5||Intron 1:12490, Whole Blood; 11:32452592, WT1||Intron 1:4489|Proximal Promoter:-229, WT1-AS||Distal Promoter:-4692, Tcell; 11:33209645, LOC338739||Intron 1:26443, Bcell; 11:353567, PBMC; 11:44332685, ALX4||Proximal Promoter:-969, PBMC; 11:45101593, PBMC,Tcell; 11:457278, PTDSS2||Intron 1:6999, Monocyte; 11:457304, PTDSS2||Intron 1:7025, Monocyte; 11:4631906, TRIM68||Proximal Promoter:-2417, Tcell; 11:46353622, DGKZ||Proximal Promoter:-832, PBMC,Tcell; 11:46354005, DGKZ||Proximal Promoter:-449, Tcell; 11:46357562, DGKZ||5' Proximal Enhancer:-9254|Intron 1:3108, PBMC; 11:46366643, DGKZ||Intron 1:12189|Proximal Promoter:-173|Proximal Promoter:-2312, PBMC,Tcell; 11:46366813, DGKZ||Intron 1:12359|Proximal Promoter:-2142|Proximal Promoter:-3, PBMC; 11:46366833, DGKZ||Intron 1:12379|Proximal Promoter:-2122|Proximal Promoter:17, PBMC,Tcell; 11:46366840, DGKZ||Intron 1:12386|Proximal Promoter:-2115|Proximal Promoter:24, PBMC,Tcell; 11:46366877, DGKZ||Intron 1:12423|Proximal Promoter:-2078|Proximal Promoter:61, PBMC; 11:46367100, DGKZ||Intron 1:12646|Proximal Promoter:-1855|Proximal Promoter:284, PBMC; 11:46368045, DGKZ||Intron 1:1229|Intron 1:13591|Proximal Promoter:-910, Tcell; 11:47176841, ARFGAP2||3' Proximal Enhancer:21835, C11orf49||Intron 5:218591, PBMC; 11:47236405, DDB2||Proximal Promoter:-87, Whole Blood; 11:47282968, MADD||5' Proximal Enhancer:-7958|5' Proximal Enhancer:-8230|5' Proximal Enhancer:-8702, NR1H3||Exon 4:12520|Exon 5:13118|Exon 5:3501, Monocyte; 11:47282999, MADD||5' Proximal Enhancer:-7927|5' Proximal Enhancer:-8199|5' Proximal Enhancer:-8671, NR1H3||Exon 4:12551|Exon 5:13149|Exon 5:3532, Monocyte,PBMC; 11:47283025, MADD||5' Proximal Enhancer:-7901|5' Proximal Enhancer:-8173|5' Proximal Enhancer:-8645, NR1H3||Intron 4:12577|Intron 5:13175|Intron 5:3558, Monocyte; 11:47616825, C1QTNF4||Proximal Promoter:-864, FAM180B||3' Proximal Enhancer:8596, Monocyte; 11:47639458, MTCH2||Exon 13:24748, Monocyte; 11:5645703, TRIM34||5' Proximal Enhancer:-7781|Intron 1:4530|Proximal Promoter:-503, TRIM6-TRIM34||Intron 7:27839, PBMC,Tcell; 11:5645913, TRIM34||5' Proximal Enhancer:-7571|Intron 1:4740|Proximal Promoter:-293, TRIM6-TRIM34||Intron 7:28049, PBMC,Tcell; 11:5667836, TRIM34||3' Proximal Enhancer:14352|3' Proximal Enhancer:21630|3' Proximal Enhancer:26663, TRIM6-TRIM34||3' Proximal Enhancer:49972, TRIM78P||Intron 1:3425, PBMC; 11:57097718, P2RX3||5' Proximal Enhancer:-8122, SSRP1||Intron 11:5633, TNKS1BP1||5' Proximal Enhancer:-5305, PBMC,Tcell; 11:58598444, GLYATL2||3' Proximal Enhancer:13553, Whole Blood; 11:58938682, DTX4||Proximal Promoter:-1129, PBMC; 11:58984544, DTX4||3' Proximal Enhancer:44733, MPEG1||Distal Promoter:-4050, Tcell; 11:59574962, MRPL16||Intron 3:3383, STX3||3' Proximal Enhancer:52431, Monocyte; 11:59836817, MS4A3||Intron 3:Intron 4:Intron 5:12717, Whole Blood; 11:60621714, CCDC86||3' Proximal Enhancer:12286, PTGDR2||Intron 1:1730, PBMC; 11:60869910, CD5||Proximal Promoter:-19, Monocyte; 11:60869969, CD5||Proximal Promoter:40, Monocyte; 11:61159736, TMEM216||Proximal Promoter:-128|Proximal Promoter:-95, Tcell; 11:61354875, SYT7||5' Proximal Enhancer:-6531, PBMC; 11:61781116, Whole Blood; 11:62559882, NXF1||Exon 20:Exon 21:13082, TAF6L||3' Proximal Enhancer:21108, TMEM179B||3' Proximal Enhancer:5009, TMEM223||Proximal Promoter:-396, PBMC,Tcell; 11:64001712, DNAJC4||Exon 7:3960, FKBP2||5' Proximal Enhancer:-6700|5' Proximal Enhancer:-6891|5' Proximal Enhancer:-7875, NUDT22||3' Proximal Enhancer:7975, TRPT1||5' Proximal Enhancer:-7986|5' Proximal Enhancer:-8371, VEGFB||Proximal Promoter:-343, PBMC; 11:65152051, FRMD8||Proximal Promoter:-1989, SLC25A45||Proximal Promoter:-1909, Tcell; 11:65196227, NEAT1||3' Proximal Enhancer:5959, Tcell; 11:65249342, Monocyte; 11:65324768, LTBP3||Intron 1:931, PBMC,Tcell; 11:65344604, EHBP1L1||Intron 1:1096, FAM89B||3' Proximal Enhancer:4785, LOC254100||5' Proximal Enhancer:-6720, SSSCA1||3' Proximal Enhancer:6662, Tcell; 11:65687877, C11orf68||Proximal Promoter:-1346, DRAP1||Exon 4:1150, Bcell,PBMC,Tcell; 11:65687892, C11orf68||Proximal Promoter:-1361, DRAP1||Exon 4:1165, PBMC,Tcell; 11:65780880, BANF1||3' Proximal Enhancer:11331, CATSPER1||3' Proximal Enhancer:13108, CST6||Exon 3:1419, Monocyte; 11:66080868, CD248||3' Proximal Enhancer:3647, Monocyte; 11:66083541, CD248||Exon 1:974, Tcell; 11:66104485, B3GNT1||3' Proximal Enhancer:10676, BRMS1||3' Proximal Enhancer:8097, RIN1||Proximal Promoter:-485, Tcell; 11:66724428, Monocyte,PBMC; 11:67032472, ADRBK1||Proximal Promoter:-1432, KDM2A||3' Proximal Enhancer:145733, PBMC; 11:67053829, ADRBK1||Exon 21:19925, ANKRD13D||Distal Promoter:-2932|Distal Promoter:-2986, Monocyte,PBMC,Tcell; 11:67053929, ADRBK1||Exon 21:20025, ANKRD13D||Distal Promoter:-2832|Distal Promoter:-2886, PBMC,Tcell; 11:67139546, CLCF1||Intron

1:1660|Intron 1:2102, PBMC,Tcell; 11:67479104, PBMC; 11:67868331, CHKA||Intron 1:20527, Whole Blood; 11:68607622, CPT1A||Intron 1:1777, PBMC,Tcell; 11:69484312, ORAOV1||Intron 3:5853, PBMC; 11:69484337, ORAOV1||Intron 3:5828, PBMC; 11:69484352, ORAOV1||Intron 3:5813, PBMC; 11:69484372, ORAOV1||Intron 3:5793, PBMC; 11:69484391, ORAOV1||Intron 3:5774, PBMC; 11:69484415, ORAOV1||Intron 3:5750, PBMC; 11:69484419, ORAOV1||Intron 3:5746, PBMC; 11:69484433, ORAOV1||Intron 3:5732, PBMC; 11:69484440, ORAOV1||Intron 3:5725, PBMC; 11:69484500, ORAOV1||Intron 3:5665, PBMC; 11:69484512, ORAOV1||Intron 3:5653, PBMC; 11:69484517, ORAOV1||Intron 3:5648, PBMC; 11:69484519, ORAOV1||Intron 3:5646, PBMC; 11:70228615, Tcell; 11:71749760, NUMA1||Intron 2:41813, Monocyte; 11:71802403, LAMTOR1||3' Proximal Enhancer:12030, LRTOMT||Intron 1:Intron 2:Intron 3:11027, PBMC; 11:72542625, ATG16L2||3' Proximal Enhancer:17175, FCHSD2||3' Proximal Enhancer:310518, Monocyte; 11:73232747, FAM168A||Intron 1:76481, Tcell; 11:73714800, UCP3||Exon 6:Intron 6:5482, PBMC; 11:74178883, KCNE3||Proximal Promoter:-283, Monocyte; 11:75062225, Tcell; 11:7534329, OLFML1||3' Proximal Enhancer:27730, PPFIBP2||Proximal Promoter:-671, PBMC; 11:76340765, Tcell; 11:76348764, PBMC; 11:76498701, TSKU||Intron 1:4417, Tcell; 11:800865, PIDD||Exon 11:4385, RPLP2||5' Proximal Enhancer:-9070, SLC25A22||Distal Promoter:-2596|Distal Promoter:-2870|Distal Promoter:-4602, PBMC; 11:82535460, PRCP||Exon 10:Exon 9:76097, Whole Blood; 11:85469919, SYTL2||Intron 1:52259|Proximal Promoter:-875, Tcell; 11:86085366, CCDC81||Proximal Promoter:-411, PBMC; 11:86086005, CCDC81||Proximal Promoter:228, PBMC; 11:888956, CHID1||Intron 7:Intron 8:Intron 9:21918|Intron 8:26102, Whole Blood; 11:89477675, Tcell; 11:907967, CHID1||Intron 1:7091|Intron 1:Intron 2:2907, Monocyte; 11:94823603, ENDOD1||Intron 1:630, Tcell; 11:95980186, MAML2||Intron 1:96158, PBMC,Tcell; 11:970389, AP2A2||Intron 3:44581, Whole Blood; 11:970664, AP2A2||Intron 3:44856, Whole Blood; 12:100582528, MIR1827||Proximal Promoter:-1133, Whole Blood; 12:101112277, Whole Blood; 12:10588483, KLRC2||Proximal Promoter:109, PBMC; 12:107380263, CRY1||3' Proximal Enhancer:107335, MTERFD3||Intron 1:666, PBMC,Tcell; 12:110317318, GLTP||Intron 1:975, PBMC; 12:113343603, OAS1||Proximal Promoter:-1135, RPH3A||3' Proximal Enhancer:114055, PBMC,Tcell; 12:113344923, OAS1||Proximal Promoter:185, RPH3A||3' Proximal Enhancer:115375, Bcell,PBMC,Tcell; 12:113345598, OAS1||Intron 1:860, RPH3A||3' Proximal Enhancer:116050, PBMC,Tcell; 12:113355675, OAS1||Exon 5:Intron 5:10937, PBMC,Tcell; 12:113447342, OAS2||Exon 10:Intron 10:31069, PBMC; 12:11906243, ETV6||Intron 2:103456, Monocyte; 12:11912232, ETV6||Intron 2:109445, Monocyte; 12:121273323, SPPL3||Intron 1:68832, Monocyte; 12:121570752, P2RX7||Proximal Promoter:122|Proximal Promoter:131, PBMC; 12:121662577, P2RX4||Intron 5:14914, PBMC; 12:122019076, KDM2B||Proximal Promoter:-156|Proximal Promoter:-712, Tcell; 12:122019110, KDM2B||Proximal Promoter:-190|Proximal Promoter:-746, PBMC,Tcell; 12:122019525, KDM2B||Proximal Promoter:-1161|Proximal Promoter:-605, Tcell; 12:122020166, KDM2B||Proximal Promoter:-1246|Proximal Promoter:-1802, PBMC,Tcell; 12:122020205, KDM2B||Proximal Promoter:-1285|Proximal Promoter:-1841, PBMC,Tcell; 12:122244660, LOC338799||Distal Promoter:-3270, SETD1B||Intron 3:2023, Tcell; 12:122250518, LOC338799||5' Proximal Enhancer:-9128, SETD1B||Intron 5:7881, Tcell; 12:122356390, PSMD9||3' Proximal Enhancer:29745, WDR66||Proximal Promoter:-72, Whole Blood; 12:123402350, ABCB9||3' Proximal Enhancer:48706, Monocyte; 12:123469507, ARL6IP4||3' Proximal Enhancer:4628, OGFOD2||3' Proximal Enhancer:10154, PITPNM2||Exon 25:125468, Tcell; 12:123469669, ARL6IP4||3' Proximal Enhancer:4790, OGFOD2||3' Proximal Enhancer:10316, PITPNM2||Exon 25:125306, Monocyte; 12:123591123, Bcell,PBMC; 12:124144432, GTF2H3||Exon 11:26052, PBMC,Tcell; 12:124145110, GTF2H3||Exon 13:26730, Tcell; 12:124248044, ATP6V0A2||3' Proximal Enhancer:51180, DNAH10||Intron 1:1003, Monocyte; 12:124422259, CCDC92||Exon 5:34904, DNAH10||3' Proximal Enhancer:175218, Monocyte,Tcell; 12:125535194, Tcell; 12:129277140, SLC15A4||3' Proximal Enhancer:31401, PBMC,Tcell; 12:129326769, Whole Blood; 12:129337339, GLT1D1||Proximal Promoter:-741, Whole Blood; 12:12982506, DDX47||Exon 11:Exon 12:16227, PBMC; 12:130968528, RIMBP2||Intron 2:33882, Whole Blood; 12:131246621, Whole Blood; 12:131606752, GPR133||Intron 20:168301, Whole Blood; 12:132935765, Whole Blood; 12:132972807, Whole Blood; 12:15687708, PTPRO||Intron 12:212518, Monocyte; 12:15717516, PTPRO||Intron 16:Intron 17:242326|Intron 4:Intron 5:18239, Tcell; 12:1770715, MIR3649||Proximal Promoter:-1169, PBMC; 12:19388225, PLEKHA5||Intron 3:105600, Monocyte; 12:21594328, PYROXD1||Intron 2:3791, Whole Blood; 12:2338399, CACNA1C||Intron 3:175984, Monocyte; 12:25151263, C12orf77||Proximal Promoter:-890, Monocyte; 12:25436262, PBMC,Tcell; 12:25454990, Whole Blood; 12:26274368, BHLHE41||Exon 5:3635, Monocyte; 12:26987164, ITPR2||Proximal Promoter:-1033, Monocyte; 12:27702201, PPFIBP1||Intron 1:25157, Monocyte; 12:29303160, Tcell; 12:29303184, Tcell; 12:31799116, METTL20||Proximal Promoter:-977, Monocyte; 12:378771, SLC6A13||5' Proximal Enhancer:-6732, Whole Blood; 12:3979720, PARP11||Intron

1:2888, PBMC,Tcell; 12:4303167, PBMC,Tcell; 12:4699232, DYRK4||Proximal Promoter:-11, Whole Blood; 12:48743861, ZNF641||Exon 2:Intron 1:813|Intron 1:1168, Tcell; 12:49371182, WNT1||Proximal Promoter:-1053, WNT10B||5' Proximal Enhancer:-5541, Tcell; 12:49372474, WNT1||Proximal Promoter:239, WNT10B||5' Proximal Enhancer:-6833, Bcell; 12:5015078, KCNA1||Distal Promoter:-3994, PBMC; 12:51611065, POU6F1||Proximal Promoter:412, Tcell; 12:51663484, SMAGP||Intron 1:510|Intron 1:718, Tcell; 12:51718251, BIN2||Proximal Promoter:-313, CELA1||3' Proximal Enhancer:22212, Tcell; 12:51720755, BIN2||Distal Promoter:-2817, CELA1||3' Proximal Enhancer:19708, PBMC,Tcell; 12:52585849, KRT80||Proximal Promoter:-65, Tcell; 12:52638005, KRT7||Intron 6:11052, Tcell; 12:52798363, KRT82||Intron 1:1813, Whole Blood; 12:53075482, KRT1||Proximal Promoter:-1291, KRT77||3' Proximal Enhancer:21765, Tcell; 12:53492662, IGFBP6||Intron 1:1227, SOAT2||Distal Promoter:-4611, Tcell; 12:54809239, ITGA5||Intron 1:3811, Tcell; 12:5621096, Bcell; 12:56323727, DGKA||Proximal Promoter:-1218|Proximal Promoter:-2084, WIBG||Distal Promoter:-2818|Proximal Promoter:-2030, Bcell; 12:56650233, ANKRD52||Intron 4:1910, Monocyte; 12:57421088, MYO1A||3' Proximal Enhancer:22813|3' Proximal Enhancer:23461, Tcell; 12:57623095, NDUFA4L2||3' Proximal Enhancer:11380, NXPH4||3' Proximal Enhancer:12518, SHMT2||Proximal Promoter:-1015|Proximal Promoter:-1047|Proximal Promoter:-260|Proximal Promoter:-732, Whole Blood; 12:57628654, NDUFA4L2||3' Proximal Enhancer:5821, NXPH4||3' Proximal Enhancer:18077, SHMT2||Exon 11:Exon 12:4544|Exon 11:Exon 12:4827|Exon 11:Exon 12:5299|Exon 12:4512, STAC3||3' Proximal Enhancer:16315, Bcell; 12:58147888, CDK4||Proximal Promoter:-1658, CYP27B1||3' Proximal Enhancer:13088, MARCH9||Proximal Promoter:-992, TSPAN31||3' Proximal Enhancer:9105, Monocyte; 12:58232984, Tcell; 12:58237272, PBMC; 12:58245042, PBMC; 12:60044871, PBMC,Tcell; 12:60673288, Monocyte; 12:62685785, USP15||Intron 1:31665, PBMC,Tcell; 12:6277045, Tcell; 12:630773, B4GALNT3||Intron 1:61231, Monocyte; 12:64080144, Whole Blood; 12:65723693, MSRB3||Intron 3:Intron 4:Intron 5:51271|Intron 4:50927, PBMC; 12:6572482, TAPBPL||3' Proximal Enhancer:11306, VAMP1||Exon 4:Exon 5:Intron 4:7361, Whole Blood; 12:65756576, MSRB3||Intron 3:Intron 4:Intron 5:84154|Intron 4:83810, Monocyte,PBMC; 12:66223718, HMGA2||Intron 2:5479, RPSAP52||Distal Promoter:-2964, Monocyte,PBMC; 12:6717762, PBMC; 12:67272574, Monocyte; 12:69139618, NUP107||3' Proximal Enhancer:58888, SLC35E3||Proximal Promoter:-317, PBMC,Tcell; 12:69139650, NUP107||3' Proximal Enhancer:58920, SLC35E3||Proximal Promoter:-285, PBMC; 12:69637167, CPSF6||Intron 1:3851, PBMC; 12:7023346, ENO2||Proximal Promoter:-267, LRRC23||Exon 7:Exon 8:9450, PBMC,Tcell; 12:7023352, ENO2||Proximal Promoter:-261, LRRC23||Exon 7:Exon 8:9456, PBMC; 12:72233249, MRS2P2||3' Proximal Enhancer:11514, TBC1D15||Proximal Promoter:-237, Tcell; 12:76023400, Whole Blood; 12:78710064, Whole Blood; 12:80321176, PPP1R12A||Intron 1:7555|Intron 1:7802|Intron 2:8059, Monocyte; 12:8276718, CLEC4A||Proximal Promoter:491, POU5F1P3||3' Proximal Enhancer:10730, Monocyte; 12:90050967, ATP2B1||Proximal Promoter:-1123, Monocyte,PBMC; 12:90057674, ATP2B1||5' Proximal Enhancer:-7830, Tcell; 12:90257229, Tcell; 12:9065639, PHC1||Proximal Promoter:-1676, Tcell; 12:92168021, Tcell; 12:92501570, PBMC,Tcell; 12:93774772, LOC643339||Distal Promoter:-3260, NUDT4||Intron 1:3072, NUDT4P1||Intron 2:3027, Bcell; 12:94533951, PLXNC1||5' Proximal Enhancer:-8547, Whole Blood; 12:94539319, PLXNC1||Distal Promoter:-3179, Monocyte; 12:94727462, CCDC41||Intron 11:Intron 12:126302, Monocyte,PBMC; 12:96650848, ELK3||Intron 3:62642, PBMC; 12:98151379, Whole Blood; 12:99029458, APAF1||5' Proximal Enhancer:-9619, IKBIP||Intron 1:9131, Monocyte; 13:107344392, Whole Blood; 13:111293846, CARKD||3' Proximal Enhancer:25916|3' Proximal Enhancer:26040, CARS2||Exon 15:64634, Whole Blood; 13:111329221, CARS2||Intron 7:29259, Monocyte; 13:112997541, Whole Blood; 13:113105794, Whole Blood; 13:113622633, MCF2L||Proximal Promoter:-901, MCF2L-AS1||Proximal Promoter:319, PBMC; 13:113622686, MCF2L||Proximal Promoter:-848, MCF2L-AS1||Proximal Promoter:266, PBMC; 13:113622738, MCF2L||Proximal Promoter:-796, MCF2L-AS1||Proximal Promoter:214, PBMC,Tcell; 13:113634978, MCF2L||Intron 1:11444, PBMC; 13:113646732, MCF2L||5' Proximal Enhancer:-9295|Intron 1:23198, PBMC; 13:113646815, MCF2L||5' Proximal Enhancer:-9212|Intron 1:23281, Monocyte; 13:113646899, MCF2L||5' Proximal Enhancer:-9128|Intron 1:23365, Monocyte; 13:114876061, RASA3||Intron 1:22034, PBMC,Tcell; 13:20763457, GJB2||Exon 2:3657, PBMC; 13:26590097, ATP8A2||Intron 36:643889, Whole Blood; 13:28502559, PDX1||3' Proximal Enhancer:8392, PBMC; 13:28803434, PAN3||Intron 6:90792, Monocyte; 13:30055092, MTUS2||Intron 3:52316|Intron 8:456345, Monocyte; 13:31585928, Whole Blood; 13:34250922, PBMC; 13:34250985, PBMC; 13:40690368, Tcell; 13:41055588, TTL||Proximal Promoter:-445, PBMC; 13:43151796, TNFSF11||Intron 1:3506|Intron 3:14925, Tcell; 13:43354421, C13orf30||Proximal Promoter:-1264, Whole Blood; 13:43355739, C13orf30||Proximal Promoter:54, Monocyte; 13:43378116, Whole Blood; 13:44241786, Monocyte; 13:44988847, Monocyte; 13:46425929, SIAH3||Proximal Promoter:-83, PBMC; 13:46425999, SIAH3||Proximal Promoter:-153, Tcell; 13:48811111, ITM2B||Intron 1:3838, PBMC;

13:49145436, PBMC; 13:49379791, Whole Blood; 13:50962761, PBMC; 13:52769951, THSD1P1||Proximal Promoter:-1349, Tcell; 13:54604033, Monocyte; 13:67801125, PCDH9||Exon 2:3343, Bcell,Monocyte,PBMC,Tcell; 13:76334583, LMO7||Intron 4:140014|Proximal Promoter:-213, Monocyte; 13:76334707, LMO7||Intron 4:140138|Proximal Promoter:-89, Monocyte; 13:76334728, LMO7||Intron 4:140159|Proximal Promoter:-68, Monocyte; 13:77298665, Monocyte; 13:80912906, SPRY2||Intron 1:2180, PBMC; 13:92001764, MIR17||Proximal Promoter:-1094, MIR17HG||Intron 1:1691, MIR18A||Proximal Promoter:-1240, MIR19A||Proximal Promoter:-1380, MIR19B1||Proximal Promoter:-1681, MIR20A||Proximal Promoter:-1554, MIR92A1||Proximal Promoter:-1803, Tcell; 13:92001959, MIR17||Proximal Promoter:-899, MIR17HG||Exon 2:1886, MIR18A||Proximal Promoter:-1045, MIR19A||Proximal Promoter:-1185, MIR19B1||Proximal Promoter:-1486, MIR20A||Proximal Promoter:-1359, MIR92A1||Proximal Promoter:-1608, Tcell; 13:97876459, MBNL2||Intron 1:1886, Tcell; 13:97877417, MBNL2||Intron 1:2844, Monocyte; 13:99965936, GPR183||5' Proximal Enhancer:-6187, Monocyte; 14:100072073, CCDC85C||Proximal Promoter:-1346, Tcell; 14:100258973, EML1||Proximal Promoter:-771, PBMC; 14:100441223, Whole Blood; 14:100622050, DEGS2||Intron 1:3962, Monocyte; 14:100908908, WDR25||Intron 2:66076|Intron 2:66154, Monocyte; 14:101001145, BEGAIN||3' Proximal Enhancer:33262|3' Proximal Enhancer:34986, WDR25||3' Proximal Enhancer:158313|3' Proximal Enhancer:158391, Monocyte; 14:101535442, MIR154||3' Proximal Enhancer:9351, MIR369||3' Proximal Enhancer:3508, MIR377||3' Proximal Enhancer:7056, MIR409||3' Proximal Enhancer:3806, MIR410||3' Proximal Enhancer:3194, MIR412||3' Proximal Enhancer:3659, MIR496||3' Proximal Enhancer:8533, MIR541||3' Proximal Enhancer:4611, MIR656||3' Proximal Enhancer:2382, Whole Blood; 14:102310690, PPP2R5C||Intron 1:34551|Intron 3:82556, Monocyte; 14:102663385, WDR20||Intron 1:Intron 2:Intron 3:57197, Tcell; 14:103415882, CDC42BPB||Intron 26:107860, Monocyte,PBMC; 14:103572194, EXOC3L4||Intron 6:5714, Bcell,Monocyte; 14:104007538, TRMT61A||3' Proximal Enhancer:12030, Whole Blood; 14:104625420, KIF26A||Intron 4:20361, Whole Blood; 14:105837270, PACS2||Intron 8:56519|Intron 8:70101, Tcell; 14:105864430, PACS2||Exon 24:97261|Exon 24:Exon 25:83679, TEX22||Proximal Promoter:-489, PBMC; 14:106329652, Tcell; 14:19613906, Whole Blood; 14:21249405, RNASE6||Proximal Promoter:196, Tcell; 14:21250201, RNASE6||Exon 2:992, PBMC,Tcell; 14:24101543, DHRS2||Distal Promoter:-4029, PBMC; 14:24604711, FAM158A||3' Proximal Enhancer:6086, FITM1||3' Proximal Enhancer:4037, PSME1||Proximal Promoter:-666, PSME2||3' Proximal Enhancer:11144, Tcell; 14:31029063, G2E3||Intron 1:735, Tcell; 14:31389792, STRN3||Intron 7:Intron 8:105815, Monocyte; 14:31679612, HECTD1||Distal Promoter:-2923, Tcell; 14:31927974, C14orf126||Proximal Promoter:-1294, Whole Blood; 14:34385840, EGLN3||3' Proximal Enhancer:34444, Monocyte,PBMC; 14:43972223, Monocyte; 14:51342320, ABHD12B||Intron 1:3443, Monocyte; 14:52326905, GNG2||Proximal Promoter:-116, Monocyte; 14:52482697, NID2||Intron 14:53249, Whole Blood; 14:52733216, PTGDR||Proximal Promoter:-1214, PBMC; 14:52734156, PTGDR||Proximal Promoter:-274, PBMC,Tcell; 14:52734251, PTGDR||Proximal Promoter:-179, PBMC; 14:52734253, PTGDR||Proximal Promoter:-177, PBMC; 14:52734286, PTGDR||Proximal Promoter:-144, PBMC; 14:52734325, PTGDR||Proximal Promoter:-105, PBMC; 14:53243708, GNPNAT1||Exon 6:14678, STYX||3' Proximal Enhancer:46826, Tcell; 14:55539537, MAPK1IP1L||3' Proximal Enhancer:21176, PBMC; 14:55769688, FBXO34||Intron 1:30817|Intron 1:31668, Monocyte; 14:56615077, PELI2||Intron 1:29985, Monocyte; 14:56654345, PELI2||Intron 2:69253, Whole Blood; 14:59932321, C14orf149||3' Proximal Enhancer:18752, GPR135||Proximal Promoter:-262, PBMC; 14:65172006, PLEKHG3||Intron 1:814, PBMC,Tcell; 14:67853825, EIF2S1||3' Proximal Enhancer:26792, PLEK2||Exon 9:25003, Monocyte; 14:69159219, Monocyte; 14:70077191, KIAA0247||Proximal Promoter:-1118, Bcell; 14:71107039, TTC9||Proximal Promoter:-1464, Tcell; 14:74220238, C14orf43||Intron 1:33658|Intron 1:6763, MIR4505||5' Proximal Enhancer:-5211, PBMC; 14:74251254, PBMC; 14:74704714, VSX2||Proximal Promoter:-1460, Whole Blood; 14:76005929, BATF||Intron 2:17146, Tcell; 14:77229233, VASH1||Exon 1:999, Monocyte; 14:77499162, IRF2BPL||Distal Promoter:-4128, Tcell; 14:77505182, PBMC; 14:88630058, Monocyte; 14:90167635, Tcell; 14:91765880, CCDC88C||Intron 21:118308, Monocyte; 14:93064986, RIN3||Intron 3:84862, Whole Blood; 14:93507882, ITPK1||Intron 3:74381, Tcell; 14:93698216, BTBD7||3' Proximal Enhancer:101169, UBR7||3' Proximal Enhancer:24816, Whole Blood; 14:94385395, FAM181A||5' Proximal Enhancer:-8292|5' Proximal Enhancer:-8293|5' Proximal Enhancer:-8335|Proximal Promoter:156, FAM181A-AS1||Intron 4:7323, Whole Blood; 14:94424156, ASB2||Intron 2:18920|Proximal Promoter:-389, Tcell; 14:94577039, IFI27||Proximal Promoter:-39, IFI27L1||3' Proximal Enhancer:29401, Tcell; 14:94577101, IFI27||Proximal Promoter:23, IFI27L1||3' Proximal Enhancer:29463, Monocyte,PBMC,Tcell; 14:94577218, IFI27||Proximal Promoter:140, IFI27L1||3' Proximal Enhancer:29580, PBMC,Tcell; 14:94750291, PPP4R4||3' Proximal Enhancer:109643, SERPINA10||Exon 5:9070|Exon 5:9305, Whole Blood; 14:94943234, SERPINA9||Proximal Promoter:-564,

Whole Blood; 15:101085210, CERS3||Proximal Promoter:-285, Whole Blood; 15:101932559, PCSK6||Intron 8:97628, Whole Blood; 15:25941836, ATP10A||Intron 13:166513, Monocyte; 15:25959239, ATP10A||Exon 10:149110, Monocyte; 15:26035581, ATP10A||Intron 1:72768, Whole Blood; 15:26107410, Monocyte; 15:26109425, Monocyte; 15:26109608, Monocyte; 15:27902080, Whole Blood; 15:31471263, Tcell; 15:31589348, Whole Blood; 15:32933783, ARHGAP11A||3' Proximal Enhancer:26093, SCG5||Proximal Promoter:-86, PBMC; 15:40398007, BMF||Exon 2:632|Exon 3:3068|Proximal Promoter:280, Whole Blood; 15:41411926, INO80||Distal Promoter:-3586, Tcell; 15:44579510, CASC4||Proximal Promoter:-1398, PBMC,Tcell; 15:44956192, PATL2||3' Proximal Enhancer:12894, SPG11||Proximal Promoter:-316, Monocyte; 15:44968935, PATL2||Proximal Promoter:151, Tcell; 15:49342629, SECISBP2L||Distal Promoter:-3869, Whole Blood; 15:50108785, Monocyte,PBMC,Tcell; 15:52130305, TMOD3||Intron 1:8481, PBMC; 15:55562403, RAB27A||Exon 2:19610|Exon 2:704|Proximal Promoter:189|Proximal Promoter:81, Tcell; 15:55562699, RAB27A||Intron 1:19314|Proximal Promoter:-107|Proximal Promoter:-215|Proximal Promoter:408, PBMC,Tcell; 15:55562773, RAB27A||Intron 1:19240|Proximal Promoter:-181|Proximal Promoter:-289|Proximal Promoter:334, Tcell; 15:57510460, TCF12||Intron 8:299628|Proximal Promoter:-1194, Monocyte; 15:57510575, TCF12||Intron 8:299743|Proximal Promoter:-1079, Monocyte; 15:60706369, NARG2||3' Proximal Enhancer:64975, Whole Blood; 15:60837277, RORA||Intron 1:47430|Intron 2:684225|Intron 2:Intron 3:82452, Tcell; 15:61182765, RORA||Intron 1:338737, Monocyte; 15:62942319, MGC15885||Distal Promoter:-4939, TLN2||Exon 2:2810, Monocyte; 15:63526883, RAB8B||Intron 1:45156, Monocyte; 15:63894296, FBXL22||Exon 2:4745, HERC1||3' Proximal Enhancer:231851, LOC100130855||Proximal Promoter:-1270, Tcell; 15:65363022, KBTBD13||5' Proximal Enhancer:-6131, RASL12||Distal Promoter:-2634, PBMC; 15:66246348, MEGF11||Intron 10:299727, Monocyte; 15:67012832, SMAD6||Intron 3:11903|Intron 3:Intron 4:18159, Monocyte; 15:69373153, LINC00277||Proximal Promoter:-36, Monocyte; 15:69373260, LINC00277||Proximal Promoter:71, Bcell,Monocyte,PBMC; 15:69447132, GLCE||5' Proximal Enhancer:-5840, PBMC; 15:73921385, NPTN||Intron 1:4368, PBMC; 15:74528243, CCDC33||Proximal Promoter:-423, Monocyte; 15:77472416, PEAK1||Exon 5:240030, Bcell,Monocyte,PBMC,Tcell; 15:78527113, ACSBG1||Proximal Promoter:-64, Monocyte; 15:79237394, CTSH||Proximal Promoter:26, Whole Blood; 15:80688078, ARNT2||5' Proximal Enhancer:-8613, Whole Blood; 15:81489338, IL16||Proximal Promoter:120, Whole Blood; 15:83619523, HOMER2||Intron 1:1953, Monocyte; 15:85141633, ZSCAN2||Distal Promoter:-2615, PBMC,Tcell; 15:89181615, AEN||3' Proximal Enhancer:17089, ISG20||Proximal Promoter:-423, Tcell; 15:89181732, AEN||3' Proximal Enhancer:17206, ISG20||Proximal Promoter:-306, Tcell; 15:89182676, AEN||3' Proximal Enhancer:18150, ISG20||Exon 2:638, PBMC,Tcell; 15:89872984, POLG||Intron 3:5042, Monocyte; 15:90294776, MESP1||Proximal Promoter:-236, WDR93||3' Proximal Enhancer:60749, PBMC; 15:92005188, PBMC; 15:97307936, Whole Blood; 16:11347455, SOCS1||3' Proximal Enhancer:2584, Tcell; 16:1138797, C1QTNF8||Exon 5:7447, SSTR5||3' Proximal Enhancer:10017|3' Proximal Enhancer:16042, Whole Blood; 16:11406995, Bcell,PBMC,Tcell; 16:11422409, Tcell; 16:11655159, LITAF||Intron 1:25070|Intron 1:25647|Intron 1:26163, Tcell; 16:11678785, LITAF||Intron 1:1444|Intron 1:2021|Intron 1:2537, Tcell; 16:12060182, TNFRSF17||Exon 2:1219, Monocyte; 16:14394816, MIR193B||Distal Promoter:-3007, MIR365A||5' Proximal Enhancer:-8325, Tcell; 16:1611342, IFT140||Intron 18:50767, TMEM204||3' Proximal Enhancer:27112, Tcell; 16:2004686, NDUFB10||Distal Promoter:-4830, RPL3L||Proximal Promoter:-7, RPS2||3' Proximal Enhancer:10141, SNORA10||3' Proximal Enhancer:7781, SNORA64||3' Proximal Enhancer:8421, Monocyte; 16:20746306, THUMPD1||Exon 4:6893, Monocyte,PBMC; 16:2286601, DNASE1L2||Proximal Promoter:134, E4F1||3' Proximal Enhancer:13035, ECI1||3' Proximal Enhancer:15001, Monocyte,PBMC; 16:2287161, DNASE1L2||Intron 3:694, E4F1||3' Proximal Enhancer:13595, ECI1||3' Proximal Enhancer:14441, PBMC; 16:2287294, DNASE1L2||Exon 4:827, E4F1||3' Proximal Enhancer:13728, ECI1||3' Proximal Enhancer:14308, PBMC; 16:2287763, DNASE1L2||Intron 5:1296, E4F1||3' Proximal Enhancer:14197, ECI1||3' Proximal Enhancer:13839, PBMC; 16:2301881, ECI1||Proximal Promoter:-279, RNPS1||3' Proximal Enhancer:15977|3' Proximal Enhancer:16532, PBMC; 16:237231, HBA1||3' Proximal Enhancer:10553, HBQ1||3' Proximal Enhancer:6899, LUC7L||3' Proximal Enhancer:42218, Monocyte; 16:25023604, ARHGAP17||Intron 1:3071, Bcell; 16:2590751, AMDHD2||3' Proximal Enhancer:20389, CEMP1||5' Proximal Enhancer:-9342, MIR3178||5' Proximal Enhancer:-8745, PDPK1||Intron 1:2782, Monocyte; 16:28123059, XPO6||Intron 17:100131, Monocyte; 16:30026667, C16orf92||5' Proximal Enhancer:-7987, DOC2A||Distal Promoter:-4266, FAM57B||3' Proximal Enhancer:15519, INO80E||3' Proximal Enhancer:19137, PBMC; 16:30106897, GDPD3||3' Proximal Enhancer:17981, TBX6||Distal Promoter:-3692, YPEL3||Exon 1:624|Intron 1:640, Monocyte,PBMC; 16:30565391, ZNF764||Exon 3:4251, Monocyte; 16:31021544, STX1B||Proximal Promoter:285, Monocyte,PBMC; 16:3181972, ZNF213||Distal Promoter:-3084|Distal Promoter:-3161, PBMC; 16:31821352,

Whole Blood; 16:3286070, MEFV||3' Proximal Enhancer:20557, ZNF200||Proximal Promoter:-613|Proximal Promoter:-614|Proximal Promoter:-884, Whole Blood; 16:423420, LOC100134368||5' Proximal Enhancer:-8820, MRPL28||Distal Promoter:-2851, TMEM8A||Intron 11:8530, Whole Blood; 16:4651732, C16orf96||3' Proximal Enhancer:45242, FAM100A||3' Proximal Enhancer:13195, Monocyte; 16:4666047, FAM100A||Proximal Promoter:-1120, MGRN1||5' Proximal Enhancer:-8777, Tcell; 16:48592694, N4BP1||Intron 2:51426, Tcell; 16:48640483, N4BP1||Intron 1:3637, Tcell; 16:54685651, Whole Blood; 16:56328421, Monocyte; 16:56665855, MT1A||5' Proximal Enhancer:-6722, MT1E||3' Proximal Enhancer:6271, MT1JP||Distal Promoter:-3795, MT1M||Proximal Promoter:-678, PBMC; 16:56667262, MT1A||5' Proximal Enhancer:-5315, MT1E||3' Proximal Enhancer:7678, MT1JP||Proximal Promoter:-2388, MT1M||Exon 2:729, PBMC; 16:56681945, MT1A||3' Proximal Enhancer:9368, MT1B||Distal Promoter:-3865, MT1DP||3' Proximal Enhancer:4230|3' Proximal Enhancer:4347, MT1F||5' Proximal Enhancer:-9909, PBMC; 16:57017595, CETP||Exon 16:21761, Monocyte; 16:57019755, CETP||3' Proximal Enhancer:23921, PBMC; 16:57022486, CETP||3' Proximal Enhancer:26652, PBMC,Tcell; 16:57023022, CETP||3' Proximal Enhancer:27188, Bcell,Monocyte,Tcell,Whole Blood; 16:57023191, CETP||3' Proximal Enhancer:27357, Bcell,Monocyte,PBMC,Whole Blood; 16:57418351, CX3CL1||Exon 3:11938, Tcell; 16:57673258, GPR56||Intron 1:10840|Intron 1:19349|Proximal Promoter:52, Bcell; 16:57770913, CCDC135||3' Proximal Enhancer:42201, KATNB1||Exon 2:1254, PBMC; 16:57907171, CNGB1||3' Proximal Enhancer:97849, Whole Blood; 16:58058642, C16orf57||3' Proximal Enhancer:23366, MMP15||Proximal Promoter:-639, PBMC; 16:62071193, CDH8||Proximal Promoter:-454, Whole Blood; 16:629015, NHLRC4||3' Proximal Enhancer:11984, PIGQ||Intron 6:9012|Intron 6:9048, Whole Blood; 16:66442374, CDH5||3' Proximal Enhancer:41850, Monocyte; 16:66600478, CKLF||3' Proximal Enhancer:14013, CKLF-CMTM1||Intron 1:Intron 2:14013, CMTM1||Proximal Promoter:129|Proximal Promoter:185, Whole Blood; 16:67203406, FBXL8||3' Proximal Enhancer:9516, HSF4||Intron 14:6119, KIAA0895L||3' Proximal Enhancer:14477, NOL3||Distal Promoter:-4349|Distal Promoter:-4358|Proximal Promoter:-998, TRADD||5' Proximal Enhancer:-9594, PBMC; 16:67212285, EXOC3L1||3' Proximal Enhancer:11822, HSF4||3' Proximal Enhancer:14998, KIAA0895L||Exon 5:5598, NOL3||3' Proximal Enhancer:4521|3' Proximal Enhancer:4530|3' Proximal Enhancer:7881, PBMC; 16:67318674, KCTD19||3' Proximal Enhancer:41987, PLEKHG4||Exon 11:5183|Exon 12:7262|Exon 13:5186|Exon 13:5625|Exon 14:6599, PBMC; 16:67580610, FAM65A||Exon 22:17071|Exon 22:17891|Exon 22:17894|Exon 22:9246, Monocyte; 16:68268252, ESRP2||Intron 2:1884, NFATC3||3' Proximal Enhancer:148984, Monocyte,PBMC; 16:696496, FAM195A||Intron 2:4648, WDR90||Distal Promoter:-2866, Monocyte; 16:72405329, Tcell; 16:734667, FBXL16||3' Proximal Enhancer:21158, JMJD8||Proximal Promoter:-228, RHBDL1||3' Proximal Enhancer:8593, STUB1||3' Proximal Enhancer:4553, WDR24||3' Proximal Enhancer:5733, PBMC; 16:740807, FBXL16||3' Proximal Enhancer:15018, JMJD8||5' Proximal Enhancer:-6368, STUB1||3' Proximal Enhancer:10693, WDR24||Proximal Promoter:-407, Monocyte; 16:74134895, Monocyte; 16:74402737, LOC283922||Proximal Promoter:-584, PBMC; 16:75142026, LDHD||3' Proximal Enhancer:8644, ZNRF1||Exon 5:109112, Tcell; 16:75150784, LDHD||Proximal Promoter:-114, ZNRF1||3' Proximal Enhancer:117870, Tcell; 16:75661691, ADAT1||Distal Promoter:-4470, KARS||Exon 14:Exon 15:19894, Monocyte; 16:776416, CCDC78||Proximal Promoter:57, FAM173A||3' Proximal Enhancer:5259, HAGHL||Proximal Promoter:-849, METRN||3' Proximal Enhancer:11244, NARFL||3' Proximal Enhancer:14581, PBMC; 16:776458, CCDC78||Proximal Promoter:15, FAM173A||3' Proximal Enhancer:5301, HAGHL||Proximal Promoter:-807, METRN||3' Proximal Enhancer:11286, NARFL||3' Proximal Enhancer:14539, PBMC; 16:776501, CCDC78||Proximal Promoter:-28, FAM173A||3' Proximal Enhancer:5344, HAGHL||Proximal Promoter:-764, METRN||3' Proximal Enhancer:11329, NARFL||3' Proximal Enhancer:14496, PBMC; 16:776685, CCDC78||Proximal Promoter:-212, FAM173A||3' Proximal Enhancer:5528, HAGHL||Proximal Promoter:-580, METRN||3' Proximal Enhancer:11513, NARFL||3' Proximal Enhancer:14312, PBMC; 16:78345421, WWOX||Intron 5:212095, PBMC; 16:81272080, BCMO1||Proximal Promoter:-215, Monocyte; 16:81480551, CMIP||Intron 1:1777, PBMC,Tcell; 16:834043, CHTF18||Distal Promoter:-4578, RPUSD1||3' Proximal Enhancer:4340, Monocyte; 16:84520021, KIAA1609||Intron 5:18267, Whole Blood; 16:85280198, PBMC; 16:85981373, Monocyte; 16:87323420, Monocyte; 16:87703364, JPH3||Intron 2:66866, PBMC; 16:88975960, CBFA2T3||Intron 1:31648|Intron 1:67544, Whole Blood; 16:88995416, CBFA2T3||Intron 1:12192|Intron 1:48088, PBMC; 16:89023389, CBFA2T3||Intron 1:20115, Monocyte; 16:89023488, CBFA2T3||Intron 1:20016, Whole Blood; 16:89033692, CBFA2T3||Intron 1:9812, Monocyte,Tcell; 16:89034088, CBFA2T3||Intron 1:9416, PBMC; 16:89034099, CBFA2T3||Intron 1:9405, PBMC; 16:89034292, CBFA2T3||Intron 1:9212, Monocyte; 16:89550474, Monocyte; 16:89609646, SPG7||3' Proximal Enhancer:Intron 9:34842, Whole Blood; 16:89922397, SPIRE2||Intron 6:27491, Monocyte; 16:89922539, SPIRE2||Exon 7:27633, Monocyte; 16:930179, LMF1||Intron 5:Intron 7:90805|Intron 6:101139,

Whole Blood; 17:113262, RPH3AL||Intron 4:Intron 5:Intron 6:89371, Whole Blood; 17:15652854, TBC1D26||3' Proximal Enhancer:17264, Whole Blood; 17:160513, RPH3AL||Intron 4:Intron 5:42120, Whole Blood; 17:16233044, Monocyte; 17:16255560, CENPV||Intron 1:1252, PBMC; 17:16257111, CENPV||Proximal Promoter:-299, PBMC,Tcell; 17:16257135, CENPV||Proximal Promoter:-323, PBMC; 17:16257165, CENPV||Proximal Promoter:-353, PBMC; 17:1626477, MIR22||5' Proximal Enhancer:-9196, MIR22HG||5' Proximal Enhancer:-6911, WDR81||Intron 1:6661|Proximal Promoter:-1356|Proximal Promoter:-1647, Tcell; 17:16395991, FAM211A||Proximal Promoter:-511, PBMC; 17:16415635, Monocyte; 17:17056629, MPRIP||Intron 12:110556, Monocyte; 17:17696044, PBMC; 17:17715815, MIR33B||3' Proximal Enhancer:1430, SREBF1||Exon 19:Exon 20:24510, PBMC; 17:18305305, Whole Blood; 17:19287978, MAPK7||3' Proximal Enhancer:6205|3' Proximal Enhancer:6945, MFAP4||Exon 6:2554, Monocyte,PBMC,Tcell; 17:20171047, SPECC1||Intron 10:111741|Intron 12:180713|Intron 12:258399, PBMC,Tcell; 17:20445757, Whole Blood; 17:21178476, MAP2K3||5' Proximal Enhancer:-9491, Monocyte; 17:25290204, Whole Blood; 17:26517057, NLK||Intron 8:147370, Monocyte; 17:26894979, ALDOC||3' Proximal Enhancer:8972, PIGS||Intron 3:3908, SPAG5||3' Proximal Enhancer:31077, Monocyte; 17:26899428, ALDOC||3' Proximal Enhancer:4523, PIGS||Proximal Promoter:-541, SPAG5||3' Proximal Enhancer:26628, Tcell; 17:26941253, KIAA0100||3' Proximal Enhancer:30924, SGK494||Proximal Promoter:-42, SPAG5-AS1||Intron 2:15103, Monocyte; 17:27459835, Monocyte; 17:27889908, ABHD15||Exon 2:4134, TP53I13||5' Proximal Enhancer:-5830, Monocyte,PBMC; 17:29285543, ADAP2||Exon 11:36790, Tcell; 17:30823006, CDK5R1||3' Proximal Enhancer:8902, MYO1D||Intron 21:380896, Whole Blood; 17:31621394, ACCN1||Intron 1:862431|Proximal Promoter:-1388, Whole Blood; 17:33787583, PBMC; 17:33815451, SLFN12L||Proximal Promoter:-693, Tcell; 17:33842255, PBMC; 17:33842301, PBMC; 17:33864734, Bcell,Monocyte; 17:34057601, AP2B1||3' Proximal Enhancer:143320, RASL10B||Proximal Promoter:-1077, PBMC; 17:34079665, C17orf50||5' Proximal Enhancer:-8250, GAS2L2||Proximal Promoter:232, RASL10B||3' Proximal Enhancer:20987, Monocyte,PBMC; 17:34079987, C17orf50||5' Proximal Enhancer:-7928, GAS2L2||Proximal Promoter:-90, RASL10B||3' Proximal Enhancer:21309, Monocyte,PBMC; 17:34079998, C17orf50||5' Proximal Enhancer:-7917, GAS2L2||Proximal Promoter:-101, RASL10B||3' Proximal Enhancer:21320, PBMC; 17:35161825, Whole Blood; 17:35481970, ACACA||Intron 46:Intron 47:174722|Intron 48:234089|Intron 48:Intron 52:284932, Monocyte,PBMC; 17:35490983, ACACA||Intron 43:Intron 44:165709|Intron 45:225076|Intron 45:Intron 49:275919, Bcell,Monocyte,PBMC; 17:36666462, ARHGAP23||Exon 24:81743, PBMC; 17:36873584, MIR4726||Proximal Promoter:-2359, MLLT6||Intron 10:11712, Tcell; 17:37034884, LASP1||Intron 2:8773, Tcell; 17:38220694, THRA||Intron 1:1627|Intron 1:2249, Tcell; 17:38263416, NR1D1||5' Proximal Enhancer:-6443, PBMC; 17:39279735, KRTAP4-11||5' Proximal Enhancer:-5129, KRTAP4-12||Exon 1:684, Bcell; 17:40259547, DHX58||Intron 8:5204, KAT2A||3' Proximal Enhancer:13835, Whole Blood; 17:40262500, DHX58||Intron 5:2251, KAT2A||3' Proximal Enhancer:10882, PBMC,Tcell; 17:40805777, TUBG2||5' Proximal Enhancer:-5488, Whole Blood; 17:4098178, ANKFY1||Exon 10:Intron 10:69096, Monocyte; 17:41159289, IFI35||Intron 1:548, RPL27||3' Proximal Enhancer:8844, VAT1||3' Proximal Enhancer:15170, Bcell,PBMC,Tcell; 17:41170693, IFI35||3' Proximal Enhancer:11952, RND2||5' Proximal Enhancer:-6564, VAT1||Exon 2:3766, Tcell; 17:42283972, ATXN7L3||5' Proximal Enhancer:-8443, UBTF||Exon 20:14278|Exon 20:Exon 21:13069|Exon 21:15022, Monocyte,PBMC; 17:42857157, ADAM11||Exon 27:20590, PBMC; 17:44835681, WNT3||3' Proximal Enhancer:60401, Monocyte; 17:45992122, SP2||Intron 1:18607, PBMC; 17:46022809, PNPO||Intron 3:3921, PRR15L||3' Proximal Enhancer:12301, PBMC; 17:47438093, ZNF652||Intron 1:1383|Intron 1:1742, PBMC,Tcell; 17:48981371, PBMC,Tcell; 17:54987827, Bcell,Monocyte,PBMC,Tcell; 17:54990662, PBMC; 17:55607898, MSI2||Intron 6:273525|Intron 7:273968, Monocyte; 17:59222476, BCAS3||Intron 22:Intron 23:467305, Monocyte; 17:60500856, EFCAB3||3' Proximal Enhancer:42943|3' Proximal Enhancer:53278, METTL2A||Proximal Promoter:-389, Tcell; 17:60905352, MIR548W||Intron 3:106495, Monocyte; 17:61520112, CYB561||Intron 1:3433|Intron 1:3610|Proximal Promoter:-1905, Monocyte; 17:61774174, LIMD2||Exon 5:3345, MAP3K3||3' Proximal Enhancer:74374, STRADA||3' Proximal Enhancer:45156, Monocyte; 17:63558259, AXIN2||Proximal Promoter:-519, PBMC; 17:65990431, BPTF||3' Proximal Enhancer:168652, C17orf58||Proximal Promoter:-666, PBMC; 17:6658198, XAF1||Proximal Promoter:-957, Monocyte; 17:6658898, XAF1||Proximal Promoter:-257, Bcell,Tcell; 17:6659070, XAF1||Proximal Promoter:-85, Bcell,Monocyte,PBMC,Tcell; 17:6659164, XAF1||Proximal Promoter:9, Bcell,Tcell; 17:6659189, XAF1||Proximal Promoter:34, PBMC,Tcell; 17:6659199, XAF1||Proximal Promoter:44, PBMC,Tcell; 17:6679254, FBXO39||Proximal Promoter:-297, XAF1||3' Proximal Enhancer:20099, Monocyte; 17:67413885, MAP2K6||Intron 1:3048, Tcell; 17:6921295, ALOX12||3' Proximal Enhancer:21912, BCL6B||5' Proximal Enhancer:-5073, C17orf49||3' Proximal Enhancer:3240, LOC100506713||5' Proximal Enhancer:-5642, MIR195||Proximal Promoter:-275, MIR497||Proximal

Promoter:46, MIR497HG||Intron 1:1678, RNASEK||, RNASEK-C17ORF49||, Tcell; 17:6926003, BCL6B||Proximal Promoter:-365, C17orf49||3' Proximal Enhancer:7948, MIR195||Distal Promoter:-4983, MIR497||Distal Promoter:-4662, MIR497HG||Distal Promoter:-3030, RNASEK||, RNASEK-C17ORF49||, Tcell; 17:6943341, SLC16A11||3' Proximal Enhancer:3901, SLC16A13||Exon 4:3948, PBMC,Tcell; 17:7255046, ACAP1||3' Proximal Enhancer:15199, KCTD11||Proximal Promoter:-161, TMEM95||Distal Promoter:-3450, PBMC; 17:73056187, KCTD2||Intron 4:12909, PBMC; 17:73120977, ARMC7||Intron 2:14896, NT5C||3' Proximal Enhancer:6913, Monocyte; 17:73238513, GGA3||Exon 7:Exon 8:19931|Exon 7:Exon 8:Exon 9:19194, NUP85||3' Proximal Enhancer:36917, Monocyte; 17:73520850, CASKIN2||5' Proximal Enhancer:-9223, LLGL2||Proximal Promoter:-932, TSEN54||3' Proximal Enhancer:8242, PBMC; 17:73649149, C17orf110||3' Proximal Enhancer:6504, RECQL5||Intron 7:14120, Monocyte; 17:74266324, FAM100B||Exon 3:5039, QRICH2||3' Proximal Enhancer:37437, PBMC,Tcell; 17:74266574, FAM100B||Exon 3:5289, QRICH2||3' Proximal Enhancer:37187, PBMC,Tcell; 17:74878420, MGAT5B||Intron 2:9692|Intron 3:13623, Whole Blood; 17:75186962, SEC14L1||Exon 2:5668|Exon 4:49958, Monocyte,PBMC; 17:75210996, SEC14L1||Exon 15:29702|Exon 17:Intron 17:73992, Monocyte,PBMC; 17:75368750, SEPT9||Distal Promoter:-3414|Intron 1:53154|Intron 2:84778|Intron 2:91259|Proximal Promoter:-521, PBMC; 17:75371532, SEPT9||Intron 1:2261|Intron 1:55936|Intron 2:87560|Intron 2:94041|Proximal Promoter:-632, Tcell; 17:75396462, MIR4316||Distal Promoter:-3326, SEPT9||Intron 1:24298|Intron 1:27191|Intron 1:80866|Intron 2:112490|Intron 2:118971, PBMC,Tcell; 17:75417165, Tcell; 17:75445261, SEPT9||Proximal Promoter:-1351, Tcell; 17:75786172, Whole Blood; 17:75959756, Tcell; 17:76168382, C17orf99||3' Proximal Enhancer:25949, SYNGR2||Exon 4:3712, TK1||3' Proximal Enhancer:14903, Monocyte; 17:76313872, PBMC; 17:76795278, USP36||Intron 18:41691, Tcell; 17:76799964, USP36||Exon 16:37005, Whole Blood; 17:77136834, RBFOX3||Intron 3:341729, Whole Blood; 17:77970193, TBC1D16||Intron 3:39454, Tcell; 17:78093353, GAA||Exon 20:Exon 21:17999, Whole Blood; 17:78237117, RNF213||Intron 1:2451|Intron 1:2458, SLC26A11||3' Proximal Enhancer:42918, Tcell; 17:78237543, RNF213||Exon 2:2877|Exon 2:2884, Bcell,Monocyte; 17:7826155, CNTROB||5' Proximal Enhancer:-9286, KCNAB3||Exon 14:6598, LOC284023||5' Proximal Enhancer:-6890, TRAPPC1||3' Proximal Enhancer:9112|3' Proximal Enhancer:9162, PBMC; 17:78638554, RPTOR||Intron 3:119930, PBMC; 17:78720226, RPTOR||Intron 5:201602, Tcell; 17:79374515, BAHCC1||Intron 1:976, MIR4740||Proximal Promoter:63, Monocyte; 17:79476521, ACTG1||3' Proximal Enhancer:3371, Tcell; 17:79905236, MYADML2||Proximal Promoter:-127, NOTUM||3' Proximal Enhancer:13821, Whole Blood; 17:80278914, CD7||Distal Promoter:-3434, SECTM1||Exon 5:13007, Tcell; 17:80545125, FOXK2||Exon 8:67532, Monocyte; 17:80561982, FOXK2||Exon 9:84389, Whole Blood; 17:80693839, FN3K||Proximal Promoter:388, FN3KRP||3' Proximal Enhancer:19258, PBMC; 17:80849463, Whole Blood; 17:80870107, Monocyte; 17:80981575, B3GNTL1||Intron 4:28111, Monocyte; 17:81020224, Monocyte; 17:8264525, KRBA2||3' Proximal Enhancer:10333, LOC100128288||Proximal Promoter:-666, PBMC; 17:841205, NXN||Intron 1:41793, PBMC; 17:8480112, MYH10||Intron 5:53967, Monocyte; 17:8770908, PIK3R6||Proximal Promoter:86, PBMC; 17:8844506, PIK3R5||Intron 1:24523, Tcell; 17:9672024, DHRS7C||3' Proximal Enhancer:22590, Whole Blood; 17:973713, Whole Blood; 17:9806770, GAS7||3' Proximal Enhancer:122853|3' Proximal Enhancer:133294|3' Proximal Enhancer:295098|3' Proximal Enhancer:55996, RCVRN||Intron 1:1914, Whole Blood; 17:9929755, GAS7||Intron 1:10309|Intron 1:172113|Proximal Promoter:-132, Monocyte; 17:9967417, GAS7||Intron 1:134451, Tcell; 17:9967431, GAS7||Intron 1:134437, Tcell; 18:10726518, PIEZO2||Intron 33:422243, Monocyte,PBMC; 18:11151283, PIEZO2||Distal Promoter:-2522, Monocyte,PBMC; 18:13611807, C18orf1||5' Proximal Enhancer:-9059|Proximal Promoter:143, MIR4526||3' Proximal Enhancer:695, PBMC; 18:14458161, PBMC; 18:19926966, PBMC; 18:29307959, Monocyte; 18:43419501, EPG5||3' Proximal Enhancer:127804, SIGLEC15||Intron 4:13957, PBMC; 18:44203699, LOXHD1||Intron 4:33297, PBMC; 18:44784846, Whole Blood; 18:49865270, DCC||Proximal Promoter:-1271, Whole Blood; 18:60192893, ZCCHC2||Intron 1:2236, Bcell,Monocyte,Tcell,Whole Blood; 18:72167187, CNDP2||Exon 2:3688|Proximal Promoter:365, Tcell; 18:74118243, ZNF516||Intron 3:88903, Whole Blood; 18:74168914, ZNF516||Intron 2:38232, Monocyte; 18:77196320, NFATC1||Intron 2:Intron 3:40549|Intron 3:35995, Tcell; 18:77410735, Tcell; 19:10196462, ANGPTL6||3' Proximal Enhancer:16963, C19orf66||Proximal Promoter:-343, PBMC; 19:10197856, ANGPTL6||3' Proximal Enhancer:15569, C19orf66||Intron 2:1051, Bcell,Monocyte,PBMC,Tcell; 19:10197996, ANGPTL6||3' Proximal Enhancer:15429, C19orf66||Intron 3:1191, Tcell; 19:10662782, ATG4D||Exon 8:8136, KRI1||3' Proximal Enhancer:13920, MIR1238||Proximal Promoter:-15, Monocyte; 19:1090978, HMHA1||3' Proximal Enhancer:23805, POLR2E||Exon 4:4413, PBMC,Tcell; 19:1174612, SBNO2||Proximal Promoter:-330, Whole Blood; 19:11998206, ZNF69||Proximal Promoter:-463, Monocyte; 19:12202386, ZNF788||Proximal Promoter:-691, Monocyte; 19:12782961, DHPS||3' Proximal Enhancer:9064|3' Proximal

Enhancer:9740, MAN2B1||5' Proximal Enhancer:-5370, WDR83||Intron 5:2445|Intron 7:5344, WDR83OS||Proximal Promoter:-2496, Tcell; 19:12800019, DHPS||5' Proximal Enhancer:-7318|5' Proximal Enhancer:-7994, FBXW9||Exon 10:7436, TNPO2||3' Proximal Enhancer:33086|3' Proximal Enhancer:33443|3' Proximal Enhancer:34791, Monocyte; 19:13993318, C19orf57||Exon 8:23591, MIR181C||3' Proximal Enhancer:7806, MIR181D||3' Proximal Enhancer:7630, NANOS3||3' Proximal Enhancer:5256, PBMC; 19:14142047, IL27RA||Proximal Promoter:-214, RLN3||3' Proximal Enhancer:3031, PBMC; 19:14142201, IL27RA||Proximal Promoter:-60, RLN3||3' Proximal Enhancer:3185, PBMC,Tcell; 19:14142205, IL27RA||Proximal Promoter:-56, RLN3||3' Proximal Enhancer:3189, PBMC,Tcell; 19:14678720, NDUFB7||Intron 1:4169, TECR||3' Proximal Enhancer:38342, Monocyte; 19:14787227, EMR3||Proximal Promoter:-1497, Monocyte; 19:14890139, EMR2||Proximal Promoter:-786, Monocyte; 19:15227219, ILVBL||Exon 11:9358, SYDE1||3' Proximal Enhancer:9006, Monocyte; 19:15248535, Whole Blood; 19:15590532, PGLYRP2||Proximal Promoter:-217, Monocyte; 19:18054643, CCDC124||Exon 5:10820|Exon 5:8739, KCNN1||5' Proximal Enhancer:-7467, Whole Blood; 19:18529121, SSBP4||Proximal Promoter:-1024, Monocyte; 19:18699326, C19orf60||Proximal Promoter:-168, CRLF1||3' Proximal Enhancer:18334, Whole Blood; 19:18745971, KLHL26||Proximal Promoter:-1866, PBMC; 19:18980443, CERS1||3' Proximal Enhancer:26510, GDF1||, UPF1||3' Proximal Enhancer:37700, PBMC; 19:18980744, CERS1||3' Proximal Enhancer:26209, GDF1||, UPF1||3' Proximal Enhancer:38001, PBMC; 19:19772686, ATP13A1||Intron 1:1817, ZNF101||5' Proximal Enhancer:-6976, PBMC,Tcell; 19:21264896, ZNF714||Proximal Promoter:-56, Whole Blood; 19:21265264, ZNF714||Proximal Promoter:312, Whole Blood; 19:21265364, ZNF714||Proximal Promoter:412, Whole Blood; 19:21265421, ZNF714||Proximal Promoter:469, Whole Blood; 19:22953960, ZNF99||Intron 1:13013, PBMC; 19:23945641, RPSAP58||Proximal Promoter:-174, ZNF681||Distal Promoter:-3948, Whole Blood; 19:23945659, RPSAP58||Proximal Promoter:-156, ZNF681||Distal Promoter:-3966, Whole Blood; 19:2789453, SGTA||5' Proximal Enhancer:-6099, THOP1||Intron 1:3948, Tcell; 19:33165484, ANKRD27||Intron 1:618, RGS9BP||Proximal Promoter:-828, Whole Blood; 19:3358182, NFIC||5' Proximal Enhancer:-8382|Proximal Promoter:-1378, PBMC; 19:34111400, CHST8||Proximal Promoter:-1460|Proximal Promoter:-1472, Whole Blood; 19:34667843, LSM14A||Intron 1:4492, Monocyte; 19:34972145, WTIP||Proximal Promoter:-734, Whole Blood; 19:35720295, FAM187B||Proximal Promoter:-667, Whole Blood; 19:35783292, HAMP||3' Proximal Enhancer:9883, MAG||Proximal Promoter:304, PBMC; 19:3677220, PIP5K1C||Intron 1:23257, Monocyte; 19:37282556, LOC284408||5' Proximal Enhancer:-5895|5' Proximal Enhancer:-5908, PBMC; 19:37825307, HKR1||Proximal Promoter:-272, Bcell; 19:37825320, HKR1||Proximal Promoter:-259, PBMC; 19:37825388, HKR1||Proximal Promoter:-191, Monocyte; 19:37825406, HKR1||Proximal Promoter:-173, Monocyte; 19:37825679, HKR1||Proximal Promoter:100, Tcell; 19:37826008, HKR1||Proximal Promoter:429, Monocyte; 19:38925549, RASGRP4||5' Proximal Enhancer:-8604, RYR1||Intron 1:1210, PBMC; 19:39788647, IL29||Exon 3:1683, LRFN1||3' Proximal Enhancer:17329, Monocyte; 19:41306150, EGLN2||Intron 1:1103|Intron 1:817, MIA-RAB4B||3' Proximal Enhancer:24709, RAB4B||3' Proximal Enhancer:22027, RAB4B-EGLN2||Intron 7:22027, Monocyte; 19:41307778, EGLN2||Intron 2:2445|Intron 2:2731, MIA-RAB4B||3' Proximal Enhancer:26337, RAB4B||3' Proximal Enhancer:23655, RAB4B-EGLN2||Intron 8:23655, Tcell; 19:41318235, EGLN2||3' Proximal Enhancer:12902|3' Proximal Enhancer:13188, RAB4B-EGLN2||3' Proximal Enhancer:34112, PBMC,Tcell; 19:41724653, AXL||Proximal Promoter:-454, Whole Blood; 19:41814839, CCDC97||Proximal Promoter:-1254, HNRNPUL1||3' Proximal Enhancer:44720|3' Proximal Enhancer:46449, PBMC; 19:41815095, CCDC97||Proximal Promoter:-998, HNRNPUL1||3' Proximal Enhancer:44976|3' Proximal Enhancer:46705, PBMC,Tcell; 19:41848134, TGFB1||Exon 4:11697, PBMC; 19:42719482, DEDD2||Intron 2:2331, ZNF526||5' Proximal Enhancer:-5009, PBMC,Tcell; 19:44509838, ZNF155||3' Proximal Enhancer:21484, ZNF230||Intron 1:2762, PBMC; 19:45655294, NKPD1||Exon 4:8114, PPP1R37||3' Proximal Enhancer:58864, PBMC; 19:46142914, EML2||Intron 4:4071|Intron 4:5861|Proximal Promoter:-239, LOC100287177||Proximal Promoter:-1990, MIR330||Proximal Promoter:-569, PBMC; 19:47287964, SLC1A5||Intron 1:2581|Intron 1:3878|Proximal Promoter:170, Monocyte; 19:47289503, SLC1A5||Intron 1:1042|Intron 1:2339|Proximal Promoter:-1369, Monocyte; 19:48565104, PLA2G4C||Intron 14:49005, Tcell; 19:48994043, CYTH2||3' Proximal Enhancer:21579, LMTK3||Intron 15:22403, Monocyte; 19:50312505, AP2A1||3' Proximal Enhancer:42326, FUZ||Exon 6:Exon 7:4062, MED25||5' Proximal Enhancer:-9030, PBMC; 19:50313003, AP2A1||3' Proximal Enhancer:42824, FUZ||Intron 4:Intron 5:3564, MED25||5' Proximal Enhancer:-8532, PBMC,Tcell; 19:50922190, POLD1||3' Proximal Enhancer:34598, SPIB||Proximal Promoter:-4, PBMC; 19:52772371, ZNF766||Proximal Promoter:-452, PBMC,Tcell; 19:53039145, ZNF808||Intron 2:8237, Monocyte,Tcell; 19:53039444, ZNF808||Intron 2:8536, Monocyte; 19:53107200, ZNF137P||3' Proximal Enhancer:7264, ZNF83||3' Proximal Enhancer:34444|3' Proximal Enhancer:86686, Monocyte,Whole Blood;

19:53192577, ZNF83||Intron 1:1309, Bcell,Monocyte,PBMC; 19:53836567, ZNF845||Proximal Promoter:-434, Monocyte; 19:54106876, LOC284379||Proximal Promoter:-125, Whole Blood; 19:54106888, LOC284379||Proximal Promoter:-137, Tcell; 19:54227319, MIR516B2||Proximal Promoter:-1376, MIR517B||3' Proximal Enhancer:2990, MIR518A1||5' Proximal Enhancer:-6940, MIR518E||5' Proximal Enhancer:-5772, MIR520D||3' Proximal Enhancer:3970, MIR520G||3' Proximal Enhancer:1900, MIR521-2||3' Proximal Enhancer:7472, MIR526A2||Distal Promoter:-2856, Whole Blood; 19:55128350, LILRB1||Proximal Promoter:-278, Monocyte; 19:55417390, NCR1||Proximal Promoter:-117, Whole Blood; 19:55477653, NLRP2||Intron 1:1002|Proximal Promoter:-57, Whole Blood; 19:56612697, ZNF787||Intron 2:19952, Whole Blood; 19:58220718, ZNF154||Proximal Promoter:-139, Whole Blood; 19:58223693, ZNF154||Distal Promoter:-3114, ZNF671||3' Proximal Enhancer:15302, Monocyte; 19:58399865, ZNF814||Intron 1:577, Bcell,Monocyte,PBMC,Whole Blood; 19:58400559, ZNF814||Proximal Promoter:-117, Monocyte,PBMC; 19:58897497, LOC646862||5' Proximal Enhancer:-9959, MIR4754||3' Proximal Enhancer:728, RPS5||Proximal Promoter:-1138, ZNF837||5' Proximal Enhancer:-5108, Tcell; 19:8464538, LOC100507567||5' Proximal Enhancer:-8963, RAB11B||Intron 1:9334, Whole Blood; 19:8477708, MARCH2||Proximal Promoter:-478, RAB11B||3' Proximal Enhancer:22504, PBMC; 1:101174567, Tcell; 1:101509557, Monocyte,PBMC; 1:10509906, APITD1||3' Proximal Enhancer:19103|3' Proximal Enhancer:19748, APITD1-CORT||Intron 2:Intron 3:19103|Intron 3:Intron 4:19748, CORT||Proximal Promoter:131, Monocyte; 1:10575953, PEX14||Intron 2:40951, PBMC; 1:110230473, GSTM1||Proximal Promoter:56, GSTM2||3' Proximal Enhancer:19830, Whole Blood; 1:112161618, RAP1A||Proximal Promoter:-786, Whole Blood; 1:1149661, SDF4||3' Proximal Enhancer:17786, TNFRSF18||5' Proximal Enhancer:-7572, TNFRSF4||Proximal Promoter:-113, PBMC; 1:115732999, Monocyte; 1:117635821, MIR942||Proximal Promoter:-1443, TTF2||Intron 18:32873, Tcell; 1:118150234, FAM46C||Intron 1:1631, Tcell; 1:120530251, NOTCH2||Intron 4:82066, Tcell; 1:12217629, TNFRSF1B||5' Proximal Enhancer:-9430, Monocyte; 1:12538678, VPS13D||Intron 66:Intron 67:248566, Tcell; 1:12675777, DHRS3||Intron 1:2043, PBMC,Tcell; 1:12675968, DHRS3||Intron 1:1852, PBMC; 1:14052489, PRDM2||Intron 2:21140|Intron 2:25755, Bcell; 1:145416777, HFE2||Exon 2:Exon 3:Exon 4:3587, PBMC; 1:145476687, ANKRD34A||3' Proximal Enhancer:6180, LIX1L||Proximal Promoter:-397, POLR3GL||5' Proximal Enhancer:-6300, PBMC; 1:145588627, NUDT17||Exon 3:808, PIAS3||3' Proximal Enhancer:12640, POLR3C||3' Proximal Enhancer:22257, PBMC; 1:147012802, BCL9||Proximal Promoter:-379, Tcell; 1:147013020, BCL9||Proximal Promoter:-161, PBMC,Tcell; 1:1475143, ATAD3A||3' Proximal Enhancer:27234|3' Proximal Enhancer:27621, SSU72||3' Proximal Enhancer:35119, TMEM240||Exon 2:597, Monocyte,PBMC; 1:1475209, ATAD3A||3' Proximal Enhancer:27300|3' Proximal Enhancer:27687, SSU72||3' Proximal Enhancer:35053, TMEM240||Intron 1:531, PBMC; 1:1476269, ATAD3A||3' Proximal Enhancer:28360|3' Proximal Enhancer:28747, SSU72||3' Proximal Enhancer:33993, TMEM240||Proximal Promoter:-529, PBMC; 1:149230804, PBMC; 1:150980384, FAM63A||Proximal Promoter:-1111|Proximal Promoter:-999|Proximal Promoter:470, PRUNE||Proximal Promoter:-588, PBMC; 1:150980411, FAM63A||Proximal Promoter:-1026|Proximal Promoter:-1138|Proximal Promoter:443, PRUNE||Proximal Promoter:-561, PBMC; 1:151148496, SCNM1||3' Proximal Enhancer:9999, TMOD4||Proximal Promoter:51, VPS72||3' Proximal Enhancer:14144, Monocyte; 1:15127680, KAZN||Intron 1:202468, Monocyte; 1:153762224, SLC27A3||3' Proximal Enhancer:14457, PBMC; 1:153896590, DENND4B||3' Proximal Enhancer:22564, GATAD2B||Proximal Promoter:-1139, Tcell; 1:154377091, IL6R||Proximal Promoter:-577, Tcell; 1:154577895, ADAR||Intron 1:22561|Intron 1:2829|Intron 1:881, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 1:154839909, KCNN3||5' Proximal Enhancer:-7571|Intron 1:2845, Whole Blood; 1:155247706, CLK2||Distal Promoter:-4425, HCN3||Proximal Promoter:333, Whole Blood; 1:155944655, ARHGEF2||Intron 1:3311|Intron 1:3681, PBMC; 1:155971907, SSR2||3' Proximal Enhancer:18851, Monocyte; 1:1562535, CDK11B||3' Proximal Enhancer:93240, MIB2||Exon 10:11291|Exon 10:Exon 11:11741, MMP23A||5' Proximal Enhancer:-5623, MMP23B||5' Proximal Enhancer:-5024, Whole Blood; 1:156548174, IQGAP3||5' Proximal Enhancer:-5778, TTC24||Proximal Promoter:-1344, PBMC; 1:156714808, HDGF||Exon 3:6735|Exon 3:7216|Exon 3:7432, MRPL24||Distal Promoter:-3885, RRNAD1||3' Proximal Enhancer:16546, Monocyte; 1:1567257, CDK11B||3' Proximal Enhancer:88518, MIB2||3' Proximal Enhancer:16013|3' Proximal Enhancer:16463, MMP23A||Proximal Promoter:-901, MMP23B||Proximal Promoter:-302, PBMC; 1:157103641, CYCSP52||3' Proximal Enhancer:5488, ETV3||Exon 4:4536|Intron 4:4742, Tcell; 1:157670825, FCRL3||Proximal Promoter:-178, Tcell; 1:157802305, CD5L||Intron 5:9329, Tcell; 1:158324331, CD1E||Exon 2:Intron 1:846, Monocyte; 1:159891638, IGSF9||3' Proximal Enhancer:23748, TAGLN2||Intron 1:3646, Tcell; 1:160765919, LY9||Proximal Promoter:-8, Monocyte; 1:161700167, FCRLB||3' Proximal Enhancer:7711, Monocyte; 1:16484811, EPHA2||Proximal Promoter:-2229, Tcell; 1:167407514, CD247||Intron 4:80333, PBMC; 1:167602860, RCSD1||Intron 1:3387, Monocyte; 1:168890140, Monocyte; 1:169081894,

ATP1B1||Intron 2:5948, PBMC; 1:169433715, SLC19A2||Exon 6:21493, Monocyte,PBMC; 1:169452126, SLC19A2||Intron 1:3082, PBMC; 1:17086061, MST1P9||Exon 7:4914, PBMC; 1:1709203, GNB1||3' Proximal Enhancer:113323, NADK||Intron 1:1094|Intron 1:2305|Intron 1:706, Tcell; 1:1714001, GNB1||3' Proximal Enhancer:108525, NADK||Distal Promoter:-3704|Distal Promoter:-4092|Proximal Promoter:-2493, PBMC; 1:1714271, GNB1||3' Proximal Enhancer:108255, NADK||Distal Promoter:-2763|Distal Promoter:-3974|Distal Promoter:-4362, PBMC,Tcell; 1:172515025, C1orf9||Intron 1:12709|Intron 1:12766, Monocyte; 1:17309539, ATP13A2||3' Proximal Enhancer:28884, MFAP2||Proximal Promoter:-1458|Proximal Promoter:-2366, Whole Blood; 1:173640200, Tcell; 1:178693897, RALGPS2||Proximal Promoter:-402, Bcell,Monocyte; 1:179112077, ABL2||Intron 1:86742|Proximal Promoter:147, Tcell; 1:17951330, ARHGEF10L||Intron 11:44283|Intron 13:85001, Monocyte; 1:181073734, PBMC; 1:181514216, CACNA1E||Intron 3:61531, Whole Blood; 1:182921688, SHCBP1L||Intron 1:865, Whole Blood; 1:184005063, GLT25D2||Intron 1:1800, PBMC; 1:184020410, TSEN15||Proximal Promoter:-400, Tcell; 1:184357556, C1orf21||Intron 1:1407, Tcell; 1:184504284, C1orf21||Intron 3:148135, Monocyte; 1:185014181, RNF2||Proximal Promoter:-369, PBMC,Tcell; 1:185014264, RNF2||Proximal Promoter:-286, PBMC; 1:1851347, CALML6||3' Proximal Enhancer:5082, TMEM52||Proximal Promoter:-607, PBMC; 1:185373486, Whole Blood; 1:186426136, PDC||5' Proximal Enhancer:-8280|Intron 1:4103, PBMC; 1:192508724, Monocyte; 1:192548609, RGS1||Exon 5:3753, PBMC,Tcell; 1:19992024, C1orf151-NBL1||3' Proximal Enhancer:68554, HTR6||Proximal Promoter:245, NBL1||3' Proximal Enhancer:19765|3' Proximal Enhancer:20159|3' Proximal Enhancer:21218|3' Proximal Enhancer:21817|3' Proximal Enhancer:22302, PBMC; 1:20015027, HTR6||3' Proximal Enhancer:23248, TMCO4||Intron 15:111383, Monocyte; 1:201583478, Tcell; 1:201615401, NAV1||Proximal Promoter:-2048, Monocyte; 1:203242601, PBMC; 1:203246482, Tcell; 1:204329222, LOC127841||3' Proximal Enhancer:9625, PLEKHA6||Proximal Promoter:-178, Tcell; 1:205648336, SLC45A3||Intron 1:1294, Bcell,Monocyte; 1:205818956, PM20D1||Proximal Promoter:320, Whole Blood; 1:205819251, PM20D1||Proximal Promoter:25, Whole Blood; 1:205819406, PM20D1||Proximal Promoter:-130, Whole Blood; 1:205819492, PM20D1||Proximal Promoter:-216, Whole Blood; 1:205819609, PM20D1||Proximal Promoter:-333, Whole Blood; 1:207996459, LOC148696||3' Proximal Enhancer:4736, Monocyte,PBMC; 1:208046539, Tcell; 1:210503830, HHAT||Intron 1:1191|Intron 1:1581|Intron 1:2235, PBMC; 1:212284214, Monocyte,PBMC; 1:212429231, PBMC; 1:212463238, PPP2R5A||Intron 1:4360, PBMC; 1:212662017, Monocyte; 1:212874742, BATF3||Proximal Promoter:-1415, PBMC; 1:2164542, SKI||Intron 1:4409, Tcell; 1:2166155, SKI||Intron 1:6022, PBMC; 1:21670736, PBMC,Tcell; 1:22191453, HSPG2||Exon 36:72297, Whole Blood; 1:22192945, HSPG2||Intron 33:70805, Monocyte; 1:221967245, Monocyte; 1:2228319, SKI||Intron 1:68186, PBMC; 1:223315766, TLR5||Intron 1:858, Tcell; 1:223315886, TLR5||Intron 1:738, PBMC,Tcell; 1:223407095, SUSD4||3' Proximal Enhancer:Intron 5:130449, Tcell; 1:223747670, CAPN8||Intron 10:105766, Whole Blood; 1:22383198, CDC42||Intron 1:4079, Monocyte; 1:22415149, CDC42||Intron 5:Intron 6:36030, Monocyte; 1:225688425, ENAH||Intron 12:Intron 13:152420, Monocyte; 1:228278432, ARF1||Intron 1:7582|Intron 1:8072, C1orf35||3' Proximal Enhancer:12590, MIR3620||5' Proximal Enhancer:-6531, PBMC; 1:228324020, GUK1||5' Proximal Enhancer:-8383|Distal Promoter:-3764|Distal Promoter:-3908, Tcell; 1:229477078, C1orf96||Intron 2:1610, Tcell; 1:230387268, GALNT2||Intron 10:184313, Tcell; 1:230428167, PBMC; 1:231761688, DISC1||Proximal Promoter:-872, PBMC; 1:232729619, Whole Blood; 1:234613490, TARBP1||Intron 1:1359, Tcell; 1:234635574, Monocyte; 1:235254025, Monocyte; 1:236686012, LGALS8||Intron 2:4499|Proximal Promoter:-1014|Proximal Promoter:-726, LGALS8-AS1||3' Proximal Enhancer:1796, PBMC; 1:236707045, HEATR1||3' Proximal Enhancer:60796, LGALS8||Intron 10:Intron 9:20307|Intron 8:20019, Whole Blood; 1:23953480, MDS2||Proximal Promoter:-343, Tcell; 1:23953778, MDS2||Proximal Promoter:-45, Tcell; 1:243877024, AKT3||Intron 1:129560|Intron 2:129862, PBMC; 1:244214206, LOC339529||3' Proximal Enhancer:133503, ZNF238||Proximal Promoter:-2375|Proximal Promoter:-354, PBMC,Tcell; 1:244603542, ADSS||Intron 1:11894, Monocyte; 1:246592123, SMYD3||Intron 1:78521, Whole Blood; 1:246785611, CNST||Intron 3:55973, Whole Blood; 1:247579131, NLRP3||Proximal Promoter:-2219|Proximal Promoter:-326, PBMC; 1:24833311, RCAN3||5' Proximal Enhancer:-7492|Intron 1:3925|Intron 1:4471|Proximal Promoter:-772, RCAN3AS||Distal Promoter:-4461, Bcell; 1:249105687, SH3BP5L||Exon 7:14467, Monocyte; 1:249116587, MIR3124||Distal Promoter:-3988, SH3BP5L||Intron 2:3567, Monocyte; 1:25942460, MAN1C1||Proximal Promoter:-1498, Tcell; 1:26034297, MAN1C1||Intron 2:90339, Monocyte; 1:26101755, MAN1C1||Intron 8:157797, Monocyte; 1:26516960, CATSPER4||Proximal Promoter:-158, CNKSR1||3' Proximal Enhancer:12979|3' Proximal Enhancer:12980, Monocyte; 1:27029290, ARID1A||Intron 1:6769, Monocyte; 1:27155559, ZDHHC18||Intron 1:2359, Monocyte; 1:27683912, MAP3K6||Exon 23:9425, SYTL1||3' Proximal Enhancer:15430, Bcell,PBMC; 1:27687232, FCN3||3' Proximal Enhancer:14083, MAP3K6||Exon 15:6105, SYTL1||3' Proximal Enhancer:18750, PBMC; 1:27709634, CD164L2||Proximal

Promoter:171, FCN3||5' Proximal Enhancer:-8319, GPR3||5' Proximal Enhancer:-9517, PBMC; 1:27950343, FGR||Exon 3:11384|Exon 3:2408|Exon 3:2763, Monocyte; 1:28585612, SESN2||Proximal Promoter:-350, PBMC; 1:3010896, PRDM16||Intron 1:25155, PBMC; 1:3052501, MIR4251||3' Proximal Enhancer:7963, PRDM16||Intron 1:66760, Whole Blood; 1:31223850, Tcell; 1:31230846, PBMC,Tcell; 1:31231488, PBMC; 1:3134420, Monocyte; 1:3134756, Bcell,Monocyte,PBMC; 1:31713008, NKAIN1||Proximal Promoter:-274, Tcell; 1:3239139, PBMC; 1:32825803, BSDC1||3' Proximal Enhancer:34259, LOC100128071||3' Proximal Enhancer:2041, TSSK3||Proximal Promoter:-2058, Tcell; 1:37947371, LOC728431||5' Proximal Enhancer:-7327, ZC3H12A||Exon 4:7253, Tcell; 1:37973652, MEAF6||Intron 4:6712, Monocyte; 1:39491318, NDUFS5||Proximal Promoter:-648, Monocyte; 1:39491459, NDUFS5||Proximal Promoter:-507, Monocyte; 1:40146660, HPCAL4||Exon 4:10429, NT5C1A||5' Proximal Enhancer:-8950, PBMC; 1:40307257, TRIT1||Exon 11:41920, Tcell; 1:40557841, PPT1||Exon 3:Intron 1:5301, Monocyte; 1:41951512, EDN2||Proximal Promoter:-1168, Monocyte; 1:42126724, HIVEP3||Intron 1:Intron 2:257654, Monocyte; 1:45009266, RNF220||Intron 2:138307, PBMC; 1:45193615, C1orf228||3' Proximal Enhancer:53222, Monocyte; 1:45669170, ZSWIM5||Intron 1:3080, Monocyte; 1:45770648, LOC400752||Exon 1:1067, Tcell; 1:47079672, MKNK1||5' Proximal Enhancer:-9706, MOB3C||Intron 1:1133|Intron 1:2891, PBMC; 1:47799638, CMPK1||Proximal Promoter:170, Whole Blood; 1:48059354, Bcell,Tcell; 1:51680516, PBMC; 1:53067717, GPX7||Proximal Promoter:-325, Tcell; 1:54058616, GLIS1||Intron 3:141261, Monocyte; 1:54797076, SSBP3||Intron 4:74903|Intron 4:75016, Bcell,Monocyte,PBMC; 1:55504649, PCSK9||Proximal Promoter:-499, Whole Blood; 1:55676815, LOC100507634||Distal Promoter:-4265, USP24||Intron 1:4224, Tcell; 1:56453730, Monocyte; 1:56646507, Whole Blood; 1:56842338, Tcell; 1:5805293, Monocyte; 1:59285109, LOC100131060||Intron 1:34287, Monocyte; 1:59529453, Tcell; 1:61549542, NFIA||Intron 1:1563|Intron 1:6597|Intron 2:2009, PBMC; 1:6159517, CHD5||3' Proximal Enhancer:80677, KCNAB2||Exon 14:53344|Exon 15:Exon 16:73445|Exon 16:107160|Exon 16:53537|Exon 16:65170, Monocyte; 1:62607877, INADL||Intron 41:399729, Whole Blood; 1:6268709, RNF207||Intron 3:2521, RPL22||5' Proximal Enhancer:-9030, PBMC; 1:6296630, HES3||5' Proximal Enhancer:-7621, ICMT||Proximal Promoter:-586, Whole Blood; 1:63249199, ATG4C||Proximal Promoter:-577, Whole Blood; 1:65327523, JAK1||Intron 8:104664, Monocyte,PBMC; 1:6706713, DNAJC11||Intron 7:55253, Tcell; 1:68363156, LOC100289178||Intron 1:65186, Whole Blood; 1:7692321, CAMTA1||Intron 6:846938, Monocyte; 1:77746028, AK5||Proximal Promoter:-1633|Proximal Promoter:-2258, PBMC,Tcell; 1:78005352, AK5||Intron 13:257066|Intron 13:257691, Monocyte; 1:8120055, Whole Blood; 1:8152878, Whole Blood; 1:85159003, SSX2IP||Distal Promoter:-2763|Distal Promoter:-2852, Monocyte; 1:85362120, LPAR3||Distal Promoter:-3224, Monocyte; 1:8729713, RERE||Intron 1:Intron 2:147986, Tcell; 1:89406505, CCBL2||Intron 12:Intron 13:52138, Monocyte; 1:89664260, GBP4||Proximal Promoter:373, PBMC; 1:9006680, CA6||Intron 1:759, Monocyte; 1:901449, C1orf170||3' Proximal Enhancer:16024, KLHL17||3' Proximal Enhancer:5483, NOC2L||5' Proximal Enhancer:-6770, PLEKHN1||Proximal Promoter:-427, Monocyte,PBMC; 1:90205170, Tcell; 1:91488275, ZNF644||Proximal Promoter:-1210|Proximal Promoter:-463, PBMC,Tcell; 1:92952467, GFI1||Distal Promoter:-3111|Proximal Promoter:-34|Proximal Promoter:-839, Tcell; 1:93416982, FAM69A||Intron 1:10097, Tcell; 1:9352405, SPSB1||Proximal Promoter:-535, Tcell; 1:944783, HES4||5' Proximal Enhancer:-9231, ISG15||Distal Promoter:-4063, Monocyte; 1:9466328, PBMC; 1:949392, AGRN||5' Proximal Enhancer:-6110, ISG15||Exon 2:546, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 1:949449, AGRN||5' Proximal Enhancer:-6053, ISG15||Exon 2:603, Bcell,Monocyte,PBMC,Tcell; 1:949561, AGRN||5' Proximal Enhancer:-5941, ISG15||Exon 2:715, PBMC; 1:949569, AGRN||5' Proximal Enhancer:-5933, ISG15||Exon 2:723, PBMC; 1:949594, AGRN||5' Proximal Enhancer:-5908, ISG15||Exon 2:748, PBMC; 1:949597, AGRN||5' Proximal Enhancer:-5905, ISG15||Exon 2:751, PBMC; 1:949634, AGRN||5' Proximal Enhancer:-5868, ISG15||Exon 2:788, Bcell,Monocyte,PBMC,Tcell; 1:949648, AGRN||5' Proximal Enhancer:-5854, ISG15||Exon 2:802, PBMC; 1:949655, AGRN||5' Proximal Enhancer:-5847, ISG15||Exon 2:809, PBMC; 1:949662, AGRN||5' Proximal Enhancer:-5840, ISG15||Exon 2:816, PBMC; 1:949669, AGRN||5' Proximal Enhancer:-5833, ISG15||Exon 2:823, PBMC; 1:949696, AGRN||5' Proximal Enhancer:-5806, ISG15||Exon 2:850, PBMC; 1:949717, AGRN||5' Proximal Enhancer:-5785, ISG15||Exon 2:871, PBMC; 1:949738, AGRN||5' Proximal Enhancer:-5764, ISG15||Exon 2:892, PBMC; 1:949850, AGRN||5' Proximal Enhancer:-5652, ISG15||Exon 2:1004, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 1:949893, AGRN||5' Proximal Enhancer:-5609, ISG15||Exon 2:1047, Bcell,Monocyte,Tcell,Whole Blood; 1:950971, AGRN||Distal Promoter:-4531, ISG15||3' Proximal Enhancer:2125, Monocyte; 1:95552972, TMEM56||5' Proximal Enhancer:-5100, Monocyte; 1:958274, AGRN||Intron 2:2772, ISG15||3' Proximal Enhancer:9428, PBMC; 1:958351, AGRN||Intron 2:2849, ISG15||3' Proximal Enhancer:9505, Monocyte; 1:962651, AGRN||Intron 2:7149, Monocyte,PBMC; 1:9730401, Monocyte; 1:983386, AGRN||Intron 22:27884, Monocyte,PBMC; 1:983545, AGRN||Exon 23:28043,

Monocyte; 1:984383, AGRN||Exon 24:28881, Monocyte; 20:1287050, FKBP1A-SDCBP2||3' Proximal Enhancer:86766, SDCBP2||3' Proximal Enhancer:19463|3' Proximal Enhancer:22829|3' Proximal Enhancer:7267, SNPH||Exon 6:40091, Whole Blood; 20:13616618, TASP1||Intron 1:2965, Monocyte; 20:17598356, DSTN||3' Proximal Enhancer:47758, RRBP1||Intron 20:Intron 21:64572, Monocyte; 20:30073546, LINC00028||Proximal Promoter:-34, REM1||3' Proximal Enhancer:10442, Monocyte; 20:30074041, LINC00028||Proximal Promoter:461, REM1||3' Proximal Enhancer:10937, Monocyte; 20:30104637, HM13||Intron 1:2397, PBMC,Tcell; 20:3052483, OXT||Proximal Promoter:218, PBMC; 20:3065423, AVP||Proximal Promoter:-53, Monocyte; 20:3074231, AVP||5' Proximal Enhancer:-8861, PBMC; 20:3145178, FASTKD5||Distal Promoter:-4646, ProSAPiP1||Exon 3:4029, UBOX5||Distal Promoter:-4638, Monocyte; 20:34653477, PBMC,Tcell; 20:35200590, TGIF2||Proximal Promoter:-1285|Proximal Promoter:-1419, TGIF2-C20ORF24||, PBMC,Tcell; 20:35584019, SAMHD1||Distal Promoter:-3773, Tcell; 20:36011999, SRC||Intron 3:37443|Intron 3:38912, Tcell; 20:36226820, PBMC; 20:37462474, PPP1R16B||Intron 1:28127, Tcell; 20:3758207, C20orf27||5' Proximal Enhancer:-9755, CENPB||3' Proximal Enhancer:9130, SPEF1||Exon 7:3895, Monocyte; 20:43374239, KCNK15||Proximal Promoter:-248, RIMS4||3' Proximal Enhancer:64740, PBMC; 20:44048174, DBNDD2||3' Proximal Enhancer:11546|3' Proximal Enhancer:12947|3' Proximal Enhancer:13314|3' Proximal Enhancer:13354|3' Proximal Enhancer:13520|3' Proximal Enhancer:13542, PIGT||Exon 3:Exon 4:Exon 5:3468, Tcell; 20:48959844, Tcell; 20:54987662, CASS4||Proximal Promoter:349|Proximal Promoter:495, CSTF1||3' Proximal Enhancer:19956|3' Proximal Enhancer:20089|3' Proximal Enhancer:20236, Monocyte; 20:55667544, Monocyte; 20:56196288, ZBP1||Proximal Promoter:-656, Tcell; 20:57228464, STX16||Intron 2:2156, STX16-NPEPL1||, Bcell,PBMC,Tcell; 20:57425157, GNAS||Distal Promoter:-2878|Intron 1:10363, GNAS-AS1||Intron 1:801, Monocyte,PBMC; 20:60628389, TAF4||Intron 1:12477, Whole Blood; 20:61160996, C20orf166||Intron 2:13337, MIR1-1||3' Proximal Enhancer:9484, MIR133A2||Proximal Promoter:-1122, Whole Blood; 20:61565484, C20orf11||Distal Promoter:-3956, DIDO1||5' Proximal Enhancer:-7581|Intron 1:3820, Whole Blood; 20:61583830, C20orf11||3' Proximal Enhancer:14390, SLC17A9||Proximal Promoter:-168, Tcell; 20:61590751, SLC17A9||Intron 3:6753, Whole Blood; 20:61590823, SLC17A9||Intron 3:6825, Whole Blood; 20:61591066, SLC17A9||Intron 3:7068, Whole Blood; 20:62179233, C20orf195||5' Proximal Enhancer:-5139, SRMS||Proximal Promoter:-376, Monocyte; 20:62191507, C20orf195||3' Proximal Enhancer:7135, PRIC285||Intron 12:7600|Intron 18:14085, Monocyte,Tcell; 20:62198469, PRIC285||Exon 1:638|Exon 7:7123, Monocyte,PBMC,Tcell,Whole Blood; 20:62198784, PRIC285||Exon 7:6808|Proximal Promoter:323, PBMC; 20:62198786, PRIC285||Exon 7:6806|Proximal Promoter:321, PBMC; 20:62198792, PRIC285||Exon 7:6800|Proximal Promoter:315, PBMC; 20:62198794, PRIC285||Exon 7:6798|Proximal Promoter:313, PBMC; 20:62198807, PRIC285||Exon 7:6785|Proximal Promoter:300, PBMC; 20:62198815, PRIC285||Exon 7:6777|Proximal Promoter:292, PBMC; 20:62198819, PRIC285||Exon 7:6773|Proximal Promoter:288, PBMC; 20:62198831, PRIC285||Exon 7:6761|Proximal Promoter:276, PBMC; 20:62198835, PRIC285||Exon 7:6757|Proximal Promoter:272, PBMC; 20:62198838, PRIC285||Exon 7:6754|Proximal Promoter:269, PBMC; 20:62198860, PRIC285||Exon 7:6732|Proximal Promoter:247, PBMC; 20:62198872, PRIC285||Exon 7:6720|Proximal Promoter:235, Bcell,Tcell; 20:62198884, PRIC285||Exon 7:6708|Proximal Promoter:223, PBMC; 20:62198888, PRIC285||Exon 7:6704|Proximal Promoter:219, PBMC; 20:62198893, PRIC285||Exon 7:6699|Proximal Promoter:214, PBMC; 20:62198906, PRIC285||Exon 7:6686|Proximal Promoter:201, PBMC; 20:62198922, PRIC285||Exon 7:6670|Proximal Promoter:185, PBMC; 20:62198931, PRIC285||Exon 7:6661|Proximal Promoter:176, PBMC; 20:62198934, PRIC285||Exon 7:6658|Proximal Promoter:173, PBMC; 20:62198940, PRIC285||Exon 7:6652|Proximal Promoter:167, PBMC; 20:62198960, PRIC285||Exon 7:6632|Proximal Promoter:147, PBMC; 20:62198973, PRIC285||Exon 7:6619|Proximal Promoter:134, PBMC; 20:62198976, PRIC285||Exon 7:6616|Proximal Promoter:131, PBMC; 20:62198984, PRIC285||Intron 6:6608|Proximal Promoter:123, PBMC; 20:62199034, PRIC285||Intron 6:6558|Proximal Promoter:73, Bcell,Monocyte,Tcell,Whole Blood; 20:62199061, PRIC285||Intron 6:6531|Proximal Promoter:46, PBMC; 20:62199156, PRIC285||Intron 6:6436|Proximal Promoter:-49, Tcell; 20:62199181, PRIC285||Intron 6:6411|Proximal Promoter:-74, Bcell,Tcell; 20:62199190, PRIC285||Intron 6:6402|Proximal Promoter:-83, Tcell; 20:62199258, PRIC285||Intron 6:6334|Proximal Promoter:-151, PBMC; 20:62199263, PRIC285||Intron 6:6329|Proximal Promoter:-156, PBMC; 20:62199324, PRIC285||Intron 6:6268|Proximal Promoter:-217, PBMC; 20:62200005, PRIC285||Exon 6:5587|Proximal Promoter:-898, PBMC; 20:62200016, PRIC285||Exon 6:5576|Proximal Promoter:-909, PBMC; 20:62200050, PRIC285||Exon 6:5542|Proximal Promoter:-943, PBMC; 20:62200086, PRIC285||Exon 6:5506|Proximal Promoter:-979, PBMC; 20:62200091, PRIC285||Exon 6:5501|Proximal Promoter:-984, Bcell,Monocyte,Tcell; 20:62200109, PRIC285||Exon 6:5483|Proximal Promoter:-1002, PBMC; 20:62200128, PRIC285||Exon 6:5464|Proximal Promoter:-1021, PBMC; 20:62200140,

PRIC285||Exon 6:5452|Proximal Promoter:-1033, PBMC; 20:62200147, PRIC285||Exon 6:5445|Proximal Promoter:-1040, PBMC; 20:62200154, PRIC285||Exon 6:5438|Proximal Promoter:-1047, PBMC; 20:62200162, PRIC285||Exon 6:5430|Proximal Promoter:-1055, PBMC; 20:62200199, PRIC285||Exon 6:5393|Proximal Promoter:-1092, Monocyte,Tcell; 20:62200203, PRIC285||Exon 6:5389|Proximal Promoter:-1096, PBMC; 20:62200252, PRIC285||Exon 6:5340|Proximal Promoter:-1145, PBMC; 20:62200264, PRIC285||Exon 6:5328|Proximal Promoter:-1157, PBMC; 20:62200277, PRIC285||Exon 6:5315|Proximal Promoter:-1170, PBMC; 20:62200283, PRIC285||Exon 6:5309|Proximal Promoter:-1176, PBMC; 20:62200285, PRIC285||Exon 6:5307|Proximal Promoter:-1178, Monocyte,PBMC,Tcell; 20:62200301, PRIC285||Exon 6:5291|Proximal Promoter:-1194, PBMC; 20:62200307, PRIC285||Exon 6:5285|Proximal Promoter:-1200, PBMC; 20:62200319, PRIC285||Exon 6:5273|Proximal Promoter:-1212, PBMC; 20:62200341, PRIC285||Exon 6:5251|Proximal Promoter:-1234, PBMC; 20:62200603, PRIC285||Exon 5:4989|Proximal Promoter:-1496, Tcell; 20:62204908, PRIC285||5' Proximal Enhancer:-5801|Intron 1:684, Bcell,Monocyte,Tcell,Whole Blood; 20:62205981, PRIC285||5' Proximal Enhancer:-6874|Proximal Promoter:-389, Tcell; 20:62212228, GMEB2||3' Proximal Enhancer:46153, PRIC285||5' Proximal Enhancer:-6636, Monocyte,Tcell; 20:62318588, RTEL1||, RTEL1-TNFRSF6B||, TNFRSF6B||5' Proximal Enhancer:-9415, PBMC; 20:62366755, LIME1||Proximal Promoter:-1222, SLC2A4RG||Distal Promoter:-4455, ZBTB46||3' Proximal Enhancer:70101, ZGPAT||Exon 6:27376|Exon 6:27962, Monocyte; 20:62370310, LIME1||Exon 6:2333, SLC2A4RG||Proximal Promoter:-900, ZBTB46||3' Proximal Enhancer:66546, ZGPAT||3' Proximal Enhancer:30931|3' Proximal Enhancer:31517, Tcell; 20:62402415, ZBTB46||Intron 3:34441, Whole Blood; 20:62405407, ZBTB46||Intron 3:31449, Whole Blood; 20:62406428, ZBTB46||Intron 3:30428, Whole Blood; 20:62406677, ZBTB46||Intron 3:30179, Whole Blood; 20:62678536, LINC00176||3' Proximal Enhancer:12840, SOX18||3' Proximal Enhancer:2443, TCEA2||5' Proximal Enhancer:-9902, Whole Blood; 20:642673, SCRT2||Exon 2:14150, SRXN1||5' Proximal Enhancer:-8783, Monocyte; 21:15646312, ABCC13||Proximal Promoter:193, Whole Blood; 21:17106209, USP25||Intron 1:3714, Monocyte; 21:30517941, C21orf7||Intron 6:65069, Monocyte; 21:34186122, C21orf62||Proximal Promoter:-69, PBMC; 21:39776434, ERG||Intron 2:Intron 3:93994|Intron 3:180435|Intron 5:256157|Intron 5:257184|Intron 5:257270, Monocyte; 21:43528868, C21orf128||Proximal Promoter:-224, UMODL1||Intron 9:37443|Intron 9:45801, Whole Blood; 21:43655256, ABCG1||Intron 2:15249|Intron 2:15990|Intron 2:19070|Intron 3:35458|Intron 4:35335, PBMC,Tcell; 21:44396204, PKNOX1||Intron 1:1562, Whole Blood; 21:45557961, C21orf33||Intron 4:4468, PWP2||3' Proximal Enhancer:30754, PBMC; 21:45722068, AIRE||3' Proximal Enhancer:11795|3' Proximal Enhancer:16306, PFKL||Intron 1:2139|Intron 1:2144, Monocyte; 21:45772638, TRPM2||Proximal Promoter:-845, Monocyte; 21:46495607, ADARB1||Intron 1:1115, SSR4P1||Proximal Promoter:-2481, PBMC,Tcell; 22:17598801, CECR6||Exon 1:3412|Exon 2:3456, IL17RA||3' Proximal Enhancer:32951, Tcell; 22:19742426, TBX1||Proximal Promoter:-1799, Tcell; 22:21399591, LOC400891||Proximal Promoter:-657, P2RX6P||Proximal Promoter:-1053, PBMC; 22:22001120, CCDC116||3' Proximal Enhancer:14035, MIR130B||5' Proximal Enhancer:-6472, MIR301B||5' Proximal Enhancer:-6149, SDF2L1||3' Proximal Enhancer:4579, PBMC; 22:24105147, C22orf15||Proximal Promoter:-60, CHCHD10||3' Proximal Enhancer:4994, MMP11||5' Proximal Enhancer:-9888, VPREB3||5' Proximal Enhancer:-8517, PBMC; 22:24979755, FAM211B||3' Proximal Enhancer:9280, GGT1||Proximal Promoter:38, Bcell,Monocyte; 22:24979964, FAM211B||3' Proximal Enhancer:9071, GGT1||Proximal Promoter:247, Bcell,Monocyte,Tcell,Whole Blood; 22:25003854, GGT1||Intron 1:4675|Intron 1:4731|Proximal Promoter:229, Tcell; 22:25571929, Whole Blood; 22:26877690, HPS4||Exon 2:2130|Proximal Promoter:-2139, SRRD||Proximal Promoter:-2159, Monocyte; 22:29876945, NEFH||Exon 1:765, Tcell; 22:29920546, THOC5||Intron 12:Intron 13:29098|Intron 12:Intron 13:29190, PBMC; 22:30640594, LIF||Intron 2:2202, Whole Blood; 22:31643997, LIMK2||Intron 2:35748|Proximal Promoter:-350, PBMC; 22:36562402, APOL3||5' Proximal Enhancer:-5425|Proximal Promoter:-177, Tcell; 22:36907158, EIF3D||Intron 14:18119, FOXRED2||Distal Promoter:-4010|Distal Promoter:-4068, PBMC; 22:37493863, TMPRSS6||Intron 3:5830, Whole Blood; 22:38029478, GGA1||Exon 15:Exon 17:24998|Exon 18:24432, SH3BP1||5' Proximal Enhancer:-6205, Tcell; 22:38709636, CSNK1E||Intron 2:3777|Intron 2:4453, Monocyte; 22:39129370, GTPBP1||Exon 12:27564, SUN2||3' Proximal Enhancer:22097|3' Proximal Enhancer:22654, Monocyte; 22:39377864, APOBEC3A||Intron 4:24338, APOBEC3B||Proximal Promoter:-540, PBMC; 22:39542136, CBX7||Intron 2:6402, PBMC; 22:39760267, SYNGR1||Intron 1:14314|Proximal Promoter:93, Monocyte; 22:42313995, SHISA8||Distal Promoter:-3324, TNFRSF13C||3' Proximal Enhancer:8826, PBMC; 22:42336869, CENPM||Intron 4:Intron 5:6279|Proximal Promoter:-646, Monocyte; 22:42347272, BK250D10.8||Proximal Promoter:-918, CENPM||Distal Promoter:-4124, Monocyte,PBMC; 22:44568775, PARVB||3' Proximal Enhancer:103779|3' Proximal Enhancer:146592|3' Proximal Enhancer:148619|3' Proximal Enhancer:173685, PARVG||5' Proximal Enhancer:-7994|5' Proximal Enhancer:-8440|5' Proximal Enhancer:-8481|Proximal

Promoter:-60, Bcell; 22:44576869, PARVG||Intron 1:8034|Proximal Promoter:-346|Proximal Promoter:-387|Proximal Promoter:100, PBMC; 22:50050164, C22orf34||Intron 1:1026, Whole Blood; 22:50357214, PIM3||Exon 6:3072, PBMC; 22:50690380, HDAC10||Proximal Promoter:-546, MAPK12||3' Proximal Enhancer:9709, TUBGCP6||5' Proximal Enhancer:-6980, Monocyte; 22:50965373, NCAPH2||3' Proximal Enhancer:18729, ODF3B||3' Proximal Enhancer:5635, SCO2||Proximal Promoter:-1339|Proximal Promoter:-1340|Proximal Promoter:-505|Proximal Promoter:-799, TYMP||Intron 5:2885|Intron 6:3141, Bcell,PBMC,Tcell; 22:50965782, NCAPH2||3' Proximal Enhancer:19138, ODF3B||3' Proximal Enhancer:5226, SCO2||Proximal Promoter:-1208|Proximal Promoter:-1748|Proximal Promoter:-1749|Proximal Promoter:-914, TYMP||Intron 4:2476|Intron 5:2732, Tcell; 22:50966123, NCAPH2||3' Proximal Enhancer:19479, ODF3B||3' Proximal Enhancer:4885, SCO2||Proximal Promoter:-1255|Proximal Promoter:-1549|Proximal Promoter:-2089|Proximal Promoter:-2090, TYMP||Exon 4:2135|Exon 5:2391, Tcell; 22:50969039, NCAPH2||3' Proximal Enhancer:22395, ODF3B||Intron 6:1969, SCO2||5' Proximal Enhancer:-5005|5' Proximal Enhancer:-5006|Distal Promoter:-4171|Distal Promoter:-4465, TYMP||Proximal Promoter:-525|Proximal Promoter:-781, Bcell; 22:50969678, NCAPH2||3' Proximal Enhancer:23034, ODF3B||Exon 4:1330, SCO2||5' Proximal Enhancer:-5104|5' Proximal Enhancer:-5644|5' Proximal Enhancer:-5645|Distal Promoter:-4810, TYMP||Proximal Promoter:-1164|Proximal Promoter:-1420, Bcell,PBMC,Tcell; 22:50970943, NCAPH2||3' Proximal Enhancer:24299, ODF3B||Proximal Promoter:65, SCO2||5' Proximal Enhancer:-6075|5' Proximal Enhancer:-6369|5' Proximal Enhancer:-6909|5' Proximal Enhancer:-6910, TYMP||Distal Promoter:-2685|Proximal Promoter:-2429, Tcell; 22:50971109, NCAPH2||3' Proximal Enhancer:24465, ODF3B||Proximal Promoter:-101, SCO2||5' Proximal Enhancer:-6241|5' Proximal Enhancer:-6535|5' Proximal Enhancer:-7075|5' Proximal Enhancer:-7076, TYMP||Distal Promoter:-2595|Distal Promoter:-2851, Bcell,Tcell,Whole Blood; 22:50971140, NCAPH2||3' Proximal Enhancer:24496, ODF3B||Proximal Promoter:-132, SCO2||5' Proximal Enhancer:-6272|5' Proximal Enhancer:-6566|5' Proximal Enhancer:-7106|5' Proximal Enhancer:-7107, TYMP||Distal Promoter:-2626|Distal Promoter:-2882, Bcell,Monocyte,Tcell,Whole Blood; 22:50973101, NCAPH2||3' Proximal Enhancer:26457, ODF3B||Proximal Promoter:-2093, SCO2||5' Proximal Enhancer:-8233|5' Proximal Enhancer:-8527|5' Proximal Enhancer:-9067|5' Proximal Enhancer:-9068, TYMP||Distal Promoter:-4587|Distal Promoter:-4843, Monocyte,PBMC,Tcell,Whole Blood; 22:50983415, KLHDC7B||Distal Promoter:-3046, SYCE3||3' Proximal Enhancer:17913, Monocyte; 22:50984368, KLHDC7B||Proximal Promoter:-2093, SYCE3||3' Proximal Enhancer:16960, Monocyte,Tcell,Whole Blood; 22:50984393, KLHDC7B||Proximal Promoter:-2068, SYCE3||3' Proximal Enhancer:16935, Monocyte,Tcell; 22:50986511, KLHDC7B||Proximal Promoter:50, SYCE3||3' Proximal Enhancer:14817, PBMC,Tcell,Whole Blood; 22:50986813, KLHDC7B||Proximal Promoter:352, SYCE3||3' Proximal Enhancer:14515, Bcell,Monocyte,PBMC,Tcell; 22:50987527, KLHDC7B||Exon 1:1066, SYCE3||3' Proximal Enhancer:13801, PBMC,Tcell; 22:50988451, KLHDC7B||Exon 1:1990, SYCE3||3' Proximal Enhancer:12877, Monocyte; 2:101928209, RNF149||Distal Promoter:-3031, PBMC; 2:102313163, MAP4K4||Proximal Promoter:-1001|Proximal Promoter:-1374, PBMC; 2:10517323, HPCAL1||Intron 1:73498|Intron 1:74284, Tcell; 2:10517352, HPCAL1||Intron 1:73527|Intron 1:74313, Tcell; 2:10517361, HPCAL1||Intron 1:73536|Intron 1:74322, Tcell; 2:10638113, PBMC,Tcell; 2:109605518, EDAR||Proximal Promoter:310, Tcell; 2:109606018, EDAR||Proximal Promoter:-190, Tcell; 2:10984512, Whole Blood; 2:113420964, SLC20A1||Exon 11:17531, Monocyte; 2:114049041, PBMC; 2:114256454, CBWD2||3' Proximal Enhancer:61187, FOXD4L1||Proximal Promoter:-206, PBMC; 2:11605539, E2F6||Intron 1:758, PBMC; 2:12310085, Tcell; 2:127782552, Whole Blood; 2:128569347, WDR33||Proximal Promoter:-586, Whole Blood; 2:12860614, TRIB2||Intron 1:3617, Tcell; 2:135125439, MGAT5||Intron 10:113610, PBMC; 2:139262297, SPOPL||Intron 1:2948, PBMC; 2:145338509, Tcell; 2:145780010, DKFZp686O1327||Intron 4:354477, Monocyte; 2:15700282, NBAS||Intron 1:1172, PBMC; 2:160041968, TANC1||Intron 14:216823, PBMC,Tcell; 2:161188335, RBMS1||Intron 2:161983, Bcell,Monocyte; 2:169506620, Monocyte; 2:170834853, UBR3||Intron 24:150836, Whole Blood; 2:173330342, ITGA6||Exon 2:38029, Tcell; 2:175411861, Tcell; 2:175643491, PBMC,Tcell; 2:175645413, Tcell; 2:178853377, Whole Blood; 2:179395885, LOC100506866||Intron 1:7968|Intron 2:8332, TTN||Exon 186:Exon 187:Exon 307:276265, Tcell; 2:182237681, PBMC; 2:186988953, Whole Blood; 2:190399258, Monocyte; 2:190446792, SLC40A1||Proximal Promoter:-1255, Tcell; 2:190447407, SLC40A1||Proximal Promoter:-1870, Bcell,Monocyte; 2:190616071, ANKAR||3' Proximal Enhancer:75361, OSGEPL1||Intron 7:11853, Tcell; 2:197122104, HECW2||Intron 18:335231, Monocyte; 2:201173897, SPATS2L||Intron 1:2542|Intron 1:2913|Intron 1:3294, PBMC,Tcell; 2:201194453, SPATS2L||Intron 2:23098|Intron 2:23469|Intron 2:23850, PBMC,Tcell; 2:201217491, SPATS2L||Intron 2:46136|Intron 2:46507|Intron 2:46888, Tcell; 2:201242945, SPATS2L||Intron 2:71590|Intron 2:71961|Intron 2:72342, Bcell,PBMC,Tcell; 2:201245077, SPATS2L||Intron 2:73722|Intron 2:74093|Intron 2:74474, PBMC,Tcell; 2:201336269, SPATS2L||Intron 10:Intron

11:165285|Intron 11:164914|Intron 11:165666, Monocyte; 2:201675739, BZW1||Proximal Promoter:-1168|Proximal Promoter:-1316|Proximal Promoter:-529, PBMC,Tcell; 2:202126379, CASP8||Intron 1:1157|Intron 1:3626|Intron 2:28214, Monocyte; 2:202484029, ALS2CR11||Proximal Promoter:-124, TMEM237||3' Proximal Enhancer:23381|3' Proximal Enhancer:24195, PBMC; 2:204192481, ABI2||Proximal Promoter:-521, PBMC; 2:207847811, Monocyte,PBMC; 2:207931932, Monocyte; 2:208027870, PBMC; 2:208028218, PBMC; 2:208101135, Monocyte; 2:208123481, Monocyte; 2:211340637, CPS1||Proximal Promoter:-1768, LANCL1||Intron 2:792|Intron 2:854|Intron 2:862, Tcell; 2:213406960, Whole Blood; 2:215675429, BARD1||Proximal Promoter:-1001, PBMC; 2:216947743, PECR||Proximal Promoter:-1204, TMEM169||Intron 1:Intron 2:1155, PBMC; 2:218938889, RUFY4||Intron 8:5152, PBMC,Tcell; 2:219738714, WNT10A||5' Proximal Enhancer:-6540, WNT6||Exon 4:14169, Monocyte,Tcell; 2:219738732, WNT10A||5' Proximal Enhancer:-6522, WNT6||Exon 4:14187, Tcell; 2:220325375, SPEG||Intron 6:25676|Proximal Promoter:-158, Whole Blood; 2:227049703, Monocyte; 2:227509309, PBMC,Tcell; 2:230124603, PID1||Intron 1:Intron 2:11454, Whole Blood; 2:232263126, B3GNT7||Exon 2:2792, Whole Blood; 2:233749913, C2orf82||3' Proximal Enhancer:14920, NGEF||Intron 10:128038|Intron 8:42948, Whole Blood; 2:233927348, INPP5D||Intron 1:2313, PBMC; 2:233940417, INPP5D||Intron 1:15382, PBMC,Tcell; 2:235244520, PBMC; 2:235401950, ARL4C||Exon 1:3743, Tcell; 2:235408237, ARL4C||Distal Promoter:-2544, Tcell; 2:235409153, ARL4C||Distal Promoter:-3460, Tcell; 2:235464680, PBMC; 2:238585054, LRRFIP1||Intron 1:48831, Tcell; 2:238850757, Tcell; 2:240020028, Whole Blood; 2:240874769, MIR4786||3' Proximal Enhancer:7742, Whole Blood; 2:241497060, ANKMY1||Proximal Promoter:345, DUSP28||Proximal Promoter:-2410, Whole Blood; 2:241561237, GPR35||Distal Promoter:-3424|Intron 5:16413, Tcell; 2:241975971, SNED1||Intron 4:37717, Whole Blood; 2:242003078, SNED1||Exon 18:64824, Monocyte; 2:242443982, FARP2||3' Proximal Enhancer:148319, STK25||Intron 2:4052, Whole Blood; 2:242799312, PDCD1||Intron 1:1746, PBMC; 2:242799553, PDCD1||Intron 1:1505, PBMC; 2:24735298, Monocyte; 2:25475916, DNMT3A||Intron 6:88858|Intron 6:89543|Proximal Promoter:-736, PBMC; 2:26635591, CCDC164||Intron 1:10808, Monocyte; 2:27298343, AGBL5||3' Proximal Enhancer:23853, EMILIN1||Distal Promoter:-3091, OST4||Distal Promoter:-3776, PBMC,Tcell; 2:27341893, ABHD1||Distal Promoter:-4763, CGREF1||5' Proximal Enhancer:-7923|Proximal Promoter:-120|Proximal Promoter:102, PBMC; 2:27529325, MPV17||3' Proximal Enhancer:16644, TRIM54||Exon 8:Exon 9:24029, UCN||3' Proximal Enhancer:1805, PBMC; 2:27850192, CCDC121||Exon 2:1553|Exon 2:1706, GPN1||Proximal Promoter:-1322|Proximal Promoter:-1670, ZNF512||3' Proximal Enhancer:44300, Monocyte; 2:28304502, Monocyte; 2:30669759, LCLAT1||Proximal Promoter:-363|Proximal Promoter:-377, Whole Blood; 2:33050475, LINC00486||Proximal Promoter:-34, PBMC; 2:3451506, TRAPPC12||Intron 6:68061, Whole Blood; 2:36782386, CRIM1||3' Proximal Enhancer:199017, FEZ2||Intron 7:Intron 8:42946, Whole Blood; 2:37190024, STRN||Intron 1:3591, Whole Blood; 2:37310396, CCDC75||Proximal Promoter:-1197, HEATR5B||Intron 2:1089, Monocyte,Tcell; 2:37312231, CCDC75||Intron 1:638, HEATR5B||Proximal Promoter:-746, Tcell; 2:37545307, PRKD3||Proximal Promoter:-1085, Monocyte; 2:37551024, PRKD3||5' Proximal Enhancer:-6802, Tcell; 2:37551081, PRKD3||5' Proximal Enhancer:-6859, PBMC,Tcell; 2:37551108, PRKD3||5' Proximal Enhancer:-6886, Tcell; 2:40447561, LOC100128590||Intron 3:302788, SLC8A1||Intron 1:209883|Intron 2:292014, Monocyte; 2:40581030, SLC8A1||Intron 1:76414|Intron 2:158545, Monocyte; 2:430882, PBMC; 2:43379496, Tcell; 2:43398079, Tcell; 2:43398118, Tcell; 2:43398154, Tcell; 2:43398171, PBMC,Tcell; 2:43398271, PBMC,Tcell; 2:43398339, Tcell; 2:45161107, SIX3||5' Proximal Enhancer:-7929, PBMC; 2:46621477, EPAS1||3' Proximal Enhancer:96937, Monocyte; 2:47100912, Tcell; 2:47115827, Whole Blood; 2:47171414, MCFD2||Proximal Promoter:-2420, TTC7A||Intron 1:3102, Monocyte; 2:48137261, FBXO11||Distal Promoter:-4329, PBMC; 2:54195596, PSME4||Intron 1:2381, PBMC,Tcell; 2:54783773, SPTBN1||Proximal Promoter:-1757, Whole Blood; 2:55919983, PNPT1||Intron 1:1028, Monocyte,PBMC,Tcell; 2:60983087, PAPOLG||Proximal Promoter:-277, PBMC; 2:61918195, PBMC; 2:64088479, UGP2||Intron 3:19466|Intron 3:20382, Monocyte; 2:64245000, VPS54||Intron 1:1214, Bcell; 2:64834106, LOC339807||Proximal Promoter:-339, Monocyte; 2:65284262, CEP68||Intron 1:768, PBMC; 2:65585470, SPRED2||Intron 1:74186|Intron 1:8461, PBMC; 2:65604910, SPRED2||Intron 1:54746, Tcell; 2:68957957, ARHGAP25||Distal Promoter:-3955, Monocyte; 2:69001115, ARHGAP25||Intron 1:39203|Proximal Promoter:-817, Monocyte,PBMC; 2:69056515, ARHGAP25||3' Proximal Enhancer:54583|3' Proximal Enhancer:94603, PBMC,Tcell; 2:6910588, LINC00487||Proximal Promoter:-146, PBMC; 2:6910631, LINC00487||Proximal Promoter:-189, PBMC; 2:6920924, PBMC; 2:6952860, PBMC; 2:7004453, CMPK2||Intron 1:1483, PBMC; 2:7004467, CMPK2||Intron 1:1469, PBMC; 2:7004487, CMPK2||Intron 1:1449, PBMC; 2:7004495, CMPK2||Intron 1:1441, PBMC; 2:7004578, CMPK2||Intron 1:1358, Bcell,Monocyte,Tcell,Whole Blood; 2:7006627, CMPK2||Proximal Promoter:-691, Tcell; 2:7016509, RSAD2||Proximal Promoter:-1286, Bcell,PBMC,Whole Blood; 2:7017571, RSAD2||Proximal Promoter:-224,

PBMC,Tcell,Whole Blood; 2:7018020, RSAD2||Proximal Promoter:225, Bcell,Monocyte,Tcell,Whole Blood; 2:7018153, RSAD2||Proximal Promoter:358, Bcell,Monocyte,Tcell,Whole Blood; 2:7018172, RSAD2||Proximal Promoter:377, PBMC; 2:7018192, RSAD2||Proximal Promoter:397, PBMC; 2:74607470, DCTN1||5' Proximal Enhancer:-5608|Intron 1:11744|Proximal Promoter:12, LOC100189589||5' Proximal Enhancer:-5374, PBMC; 2:7811924, Monocyte; 2:79312224, REG1B||Exon 6:2926, Bcell; 2:84709147, PBMC,Tcell; 2:87012810, CD8A||Exon 5:Exon 6:Exon 7:6027|Exon 9:22709, RMND5A||3' Proximal Enhancer:65397, Tcell; 2:87034200, CD8A||Intron 2:1319, CD8B||3' Proximal Enhancer:54847, PBMC; 2:87048747, CD8B||Intron 3:Intron 4:Intron 5:Intron 6:40300, PBMC; 2:88313351, Monocyte; 2:89060884, ANKRD36BP2||Distal Promoter:-4534, Tcell; 2:9427798, ASAP2||Intron 2:80905, Monocyte; 2:9549277, ASAP2||3' Proximal Enhancer:202384, ITGB1BP1||Intron 4:14366, Whole Blood; 2:96824799, PBMC,Tcell; 2:97166422, NEURL3||Exon 2:7424, PBMC; 2:97746622, FAHD2B||3' Proximal Enhancer:13960, Monocyte; 2:99081350, INPP4A||Intron 1:20030, Tcell; 2:99952887, EIF5B||Proximal Promoter:-946, TXNDC9||Proximal Promoter:-27, Whole Blood; 3:100053096, NIT2||Proximal Promoter:-465, TBC1D23||3' Proximal Enhancer:73411, PBMC; 3:100053188, NIT2||Proximal Promoter:-373, TBC1D23||3' Proximal Enhancer:73503, PBMC; 3:10184877, VHL||Intron 1:1559, Tcell; 3:10437269, ATP2B2||Intron 5:109999, MIR885||Proximal Promoter:-1023, Tcell; 3:107810361, CD47||Proximal Promoter:-426, PBMC; 3:107810507, CD47||Proximal Promoter:-572, PBMC,Tcell; 3:107810716, CD47||Proximal Promoter:-781, PBMC,Tcell; 3:111844870, GCET2||Intron 3:Intron 4:7282, Monocyte; 3:112023284, PBMC; 3:112109797, PBMC; 3:112218761, BTLA||Proximal Promoter:-353, Monocyte; 3:112390601, Monocyte; 3:112927486, BOC||Distal Promoter:-3888, Whole Blood; 3:114037617, MIR568||Proximal Promoter:-2201, TIGIT||3' Proximal Enhancer:24785, Tcell; 3:114128301, PBMC; 3:119276917, CD80||Intron 1:1564, Tcell; 3:119308390, ADPRH||Exon 5:9868, PLA1A||5' Proximal Enhancer:-8304, Monocyte; 3:121714668, ILDR1||Intron 3:Intron 5:26459, Whole Blood; 3:122281881, DTX3L||Proximal Promoter:-1303, PARP9||Intron 1:1266|Intron 1:1313|Intron 1:1642, Bcell,Monocyte,Tcell,Whole Blood; 3:122281939, DTX3L||Proximal Promoter:-1245, PARP9||Intron 1:1208|Intron 1:1255|Intron 1:1584, Bcell,Monocyte,Tcell,Whole Blood; 3:122281975, DTX3L||Proximal Promoter:-1209, PARP9||Intron 1:1172|Intron 1:1219|Intron 1:1548, Bcell,Monocyte,Tcell,Whole Blood; 3:122284081, DTX3L||Intron 1:897, PARP9||Proximal Promoter:-558|Proximal Promoter:-887|Proximal Promoter:-934, PBMC; 3:122284087, DTX3L||Intron 1:903, PARP9||Proximal Promoter:-564|Proximal Promoter:-893|Proximal Promoter:-940, PBMC; 3:122284097, DTX3L||Intron 1:913, PARP9||Proximal Promoter:-574|Proximal Promoter:-903|Proximal Promoter:-950, PBMC; 3:122284124, DTX3L||Intron 1:940, PARP9||Proximal Promoter:-601|Proximal Promoter:-930|Proximal Promoter:-977, PBMC; 3:122284156, DTX3L||Intron 1:972, PARP9||Proximal Promoter:-1009|Proximal Promoter:-633|Proximal Promoter:-962, PBMC; 3:122284187, DTX3L||Intron 1:1003, PARP9||Proximal Promoter:-1040|Proximal Promoter:-664|Proximal Promoter:-993, PBMC; 3:122284215, DTX3L||Intron 1:1031, PARP9||Proximal Promoter:-1021|Proximal Promoter:-1068|Proximal Promoter:-692, Monocyte,Tcell; 3:122284229, DTX3L||Intron 1:1045, PARP9||Proximal Promoter:-1035|Proximal Promoter:-1082|Proximal Promoter:-706, PBMC; 3:122284951, DTX3L||Intron 2:1767, PARP9||Proximal Promoter:-1428|Proximal Promoter:-1757|Proximal Promoter:-1804, PBMC; 3:122285010, DTX3L||Intron 2:1826, PARP9||Proximal Promoter:-1487|Proximal Promoter:-1816|Proximal Promoter:-1863, PBMC; 3:122285178, DTX3L||Intron 2:1994, PARP9||Proximal Promoter:-1655|Proximal Promoter:-1984|Proximal Promoter:-2031, PBMC; 3:122286677, DTX3L||Intron 2:3493, PARP15||5' Proximal Enhancer:-9771, PARP9||Distal Promoter:-3154|Distal Promoter:-3483|Distal Promoter:-3530, Tcell; 3:122399344, PARP14||Proximal Promoter:-327, Tcell; 3:122400405, PARP14||Intron 1:734, PBMC; 3:122400437, PARP14||Intron 1:766, PBMC; 3:122400445, PARP14||Intron 1:774, PBMC; 3:122400453, PARP14||Intron 1:782, PBMC; 3:122400474, PARP14||Intron 1:803, Bcell,Monocyte,Tcell,Whole Blood; 3:122400478, PARP14||Intron 1:807, PBMC; 3:122400498, PARP14||Intron 1:827, PBMC; 3:122400509, PARP14||Intron 1:838, PBMC; 3:122400523, PARP14||Intron 1:852, PBMC; 3:122400610, PARP14||Intron 1:939, PBMC; 3:122401300, PARP14||Intron 1:1629, Bcell,PBMC,Tcell; 3:122401343, PARP14||Intron 1:1672, Monocyte,PBMC,Tcell; 3:123476518, MYLK||Intron 4:126631, Tcell; 3:124303268, KALRN||Intron 34:489711|Proximal Promoter:-237, Tcell; 3:124303404, KALRN||Intron 34:489847|Proximal Promoter:-101, Tcell; 3:124505038, ITGB5||Intron 10:101106, Monocyte; 3:126106836, CCDC37||5' Proximal Enhancer:-6945, PBMC; 3:127006893, Whole Blood; 3:128444572, RAB7A||Proximal Promoter:-406, Monocyte; 3:129032826, C3orf37||3' Proximal Enhancer:35010|3' Proximal Enhancer:35143, H1FX||3' Proximal Enhancer:2294, H1FX-AS1||Proximal Promoter:-2287, PBMC; 3:12917884, PBMC; 3:13036713, IQSEC1||Intron 1:77904, Tcell; 3:130466871, PIK3R4||Proximal Promoter:-1175, Whole Blood; 3:130467068, PIK3R4||Proximal Promoter:-1372, Whole Blood; 3:132261993, DNAJC13||3' Proximal Enhancer:125441, Tcell; 3:132372994, UBA5||5' Proximal

Enhancer:-6145|Proximal Promoter:-295, Monocyte; 3:132930478, TMEM108||Intron 2:173308, Tcell; 3:133160722, BFSP2||Intron 1:41933, Monocyte; 3:133502952, SRPRB||Proximal Promoter:76, TF||3' Proximal Enhancer:37976, Whole Blood; 3:134033339, Whole Blood; 3:13590415, FBLN2||Proximal Promoter:-209, PBMC; 3:136714183, IL20RB||Intron 5:37477, Monocyte,PBMC; 3:138047362, NME9||Intron 2:1366, Monocyte; 3:138048926, NME9||Proximal Promoter:-198, PBMC,Tcell; 3:138048937, NME9||Proximal Promoter:-209, PBMC; 3:141516705, GRK7||Intron 2:19663, PBMC; 3:14183669, TMEM43||Exon 12:17230, XPC||3' Proximal Enhancer:36503, PBMC; 3:141871386, GK5||3' Proximal Enhancer:73063, TFDP2||Distal Promoter:-3000, PBMC; 3:142844036, CHST2||3' Proximal Enhancer:5419, Monocyte,Tcell; 3:143505340, SLC9A9||Intron 4:62033, Bcell; 3:146258875, PLSCR1||Intron 1:3753, Bcell,Monocyte,PBMC,Tcell; 3:146260929, PLSCR1||Intron 1:1699, PBMC; 3:146260954, PLSCR1||Intron 1:1674, Bcell,Monocyte,Tcell,Whole Blood; 3:147121229, ZIC1||5' Proximal Enhancer:-5951, ZIC4||Intron 1:2078|Intron 1:3367|Intron 1:842, Whole Blood; 3:150420821, FAM194A||Intron 1:921, Tcell; 3:150996184, P2RY14||Proximal Promoter:46, Tcell; 3:150996563, P2RY14||Proximal Promoter:-333, Bcell,Monocyte; 3:150997688, P2RY14||Proximal Promoter:-1458, Bcell; 3:151613372, Monocyte,PBMC,Tcell; 3:15311183, SH3BP5||Intron 4:62921|Intron 4:71718, Tcell; 3:156332967, PBMC,Tcell; 3:160121821, IFT80||Distal Promoter:-4501, MIR15B||Proximal Promoter:-554, MIR16-2||Proximal Promoter:-711, SMC4||Intron 3:3475|Intron 4:4392, Bcell,Tcell; 3:16420793, RFTN1||Intron 4:134429, Whole Blood; 3:167370529, WDR49||Intron 1:760, Monocyte; 3:168863028, MECOM||Intron 1:1065|Intron 1:1372|Intron 1:2494|Intron 1:Intron 2:518535, Bcell; 3:171466200, PLD1||Intron 1:62084, Whole Blood; 3:171858472, FNDC3B||Intron 3:100129|Intron 3:101055, Tcell; 3:177055590, Monocyte; 3:177308016, Whole Blood; 3:180546915, Whole Blood; 3:182970719, B3GNT5||Proximal Promoter:-312, MCF2L2||Intron 15:175136, PBMC; 3:182975699, B3GNT5||Intron 1:4668, MCF2L2||Intron 15:170156, Monocyte; 3:183016948, Monocyte; 3:184227857, Monocyte; 3:184323327, Monocyte; 3:185531258, Monocyte; 3:185656289, TRA2B||Proximal Promoter:-365, Monocyte; 3:189349323, TP63||Proximal Promoter:108, Whole Blood; 3:193922037, Whole Blood; 3:194403234, FAM43A||Distal Promoter:-3387, Tcell; 3:194876491, XXYLT1||Intron 3:115404, Monocyte; 3:194980397, XXYLT1||Intron 1:11498, Tcell; 3:195623338, TNK2||Intron 1:12542|Proximal Promoter:-906, Tcell; 3:195632915, TNK2||Intron 1:2965, Tcell,Whole Blood; 3:22412385, Monocyte; 3:22412746, Monocyte,PBMC; 3:22413232, Monocyte; 3:25634257, RARB||Intron 5:164424|Intron 5:164504, TOP2B||3' Proximal Enhancer:71531, PBMC; 3:27521365, Bcell; 3:32856104, TRIM71||Distal Promoter:-3405, PBMC,Tcell; 3:32933637, TRIM71||Exon 4:74128, PBMC; 3:42054195, PBMC; 3:43332555, SNRK||Intron 1:4552, PBMC,Tcell; 3:45066580, CLEC3B||Proximal Promoter:-1178, Monocyte; 3:46853631, PBMC; 3:46853850, PBMC; 3:47040292, NBEAL2||Exon 23:19120, Monocyte,PBMC,Tcell; 3:47040357, NBEAL2||Exon 23:19185, Monocyte; 3:48507087, ATRIP||3' Proximal Enhancer:18870, SHISA5||3' Proximal Enhancer:34574, TREX1||Proximal Promoter:-141, Tcell; 3:48508391, ATRIP||3' Proximal Enhancer:20174, SHISA5||3' Proximal Enhancer:33270, TREX1||Exon 1:Exon 2:1163, Monocyte; 3:48509019, ATRIP||3' Proximal Enhancer:20802, SHISA5||3' Proximal Enhancer:32642, TREX1||Exon 1:Exon 2:1791, PBMC; 3:49209160, CCDC71||5' Proximal Enhancer:-5375, KLHDC8B||Proximal Promoter:143, LOC646498||3' Proximal Enhancer:20131, PBMC; 3:5025885, BHLHE40||Exon 5:4789, Tcell; 3:51104051, DOCK3||Intron 6:391380, Monocyte; 3:51419127, DOCK3||Exon 53:706456, MANF||Distal Promoter:-3564, RBM15B||5' Proximal Enhancer:-9571, Monocyte; 3:52087583, C3orf74||3' Proximal Enhancer:11545, DUSP7||Intron 2:2878, Tcell; 3:52088726, C3orf74||3' Proximal Enhancer:10402, DUSP7||Intron 1:1735, Tcell; 3:53118167, RFT1||3' Proximal Enhancer:46303, PBMC; 3:53321215, DCP1A||Exon 10:60439, Monocyte; 3:54119792, Whole Blood; 3:55646231, ERC2||Intron 16:856160, Monocyte; 3:56789110, ARHGEF3||Exon 3:20635|Exon 3:46885|Exon 6:324226, Tcell; 3:56809796, ARHGEF3||Intron 1:26199|Intron 4:303540|Proximal Promoter:-51, Monocyte; 3:56810151, ARHGEF3||Intron 1:25844|Intron 4:303185|Proximal Promoter:-406, Monocyte; 3:58246371, ABHD6||Intron 2:23113, Tcell; 3:61237223, FHIT||Proximal Promoter:-90, Whole Blood; 3:63978545, ATXN7||Intron 10:94471|Intron 11:128313|Intron 7:25126, Monocyte; 3:66848679, Whole Blood; 3:69482656, Monocyte; 3:71111489, FOXP1||Intron 1:2585|Intron 2:68603|Intron 3:182827|Intron 4:242422|Intron 6:481219|Intron 7:521415|Intron 7:521651, PBMC; 3:71481486, FOXP1||Intron 2:111222|Intron 3:151418|Intron 3:151654, PBMC; 3:72433837, RYBP||Intron 1:61937, PBMC; 3:9291739, SRGAP3||Proximal Promoter:-428, PBMC; 3:98313398, CPOX||Proximal Promoter:-943, Monocyte; 4:101896573, Monocyte; 4:103489295, NFKB1||Intron 6:66810, Tcell; 4:10591571, CLNK||Intron 3:94815, Tcell; 4:111538826, PITX2||Exon 3:5428|Exon 4:Exon 5:Exon 6:Exon 7:24453, Whole Blood; 4:119990940, SYNPO2||3' Proximal Enhancer:180945, Whole Blood; 4:124154293, SPATA5||Intron 14:310069, Monocyte; 4:129405035, PBMC; 4:130013461, C4orf33||Distal Promoter:-3820|Proximal Promoter:-1367, SCLT1||Intron 1:1303, Tcell; 4:139110589, SLC7A11||Intron 6:52914, Monocyte; 4:140952109, MAML3||Intron 1:123124,

Whole Blood; 4:141079462, MAML3||Distal Promoter:-4229, Monocyte; 4:144831061, GYPE||Distal Promoter:-4345, Monocyte; 4:146656091, C4orf51||3' Proximal Enhancer:54736, Whole Blood; 4:15007205, CPEB2||Intron 1:2908, LOC441009||Distal Promoter:-3536, Bcell,Monocyte,PBMC; 4:153601466, TMEM154||Proximal Promoter:-149, Tcell; 4:15376215, C1QTNF7||Intron 1:34656|Proximal Promoter:41, Whole Blood; 4:154443833, KIAA0922||Intron 3:56336, Tcell; 4:1580377, Whole Blood; 4:160118923, Monocyte,PBMC; 4:1625012, Whole Blood; 4:1625181, Whole Blood; 4:169239131, DDX60||Intron 1:827, Bcell,Monocyte,Tcell,Whole Blood; 4:169242366, DDX60||Proximal Promoter:-2408, PBMC,Tcell; 4:17580680, LAP3||Intron 1:1754, Monocyte,PBMC,Tcell; 4:1765091, PBMC; 4:184113429, WWC2||Intron 1:92967, Tcell; 4:185269126, LOC728175||Intron 2:6004, Monocyte; 4:185480871, Tcell; 4:187407036, LOC285441||Intron 1:15176, Whole Blood; 4:2137264, POLN||Intron 14:93694, PBMC; 4:2262318, ZFYVE28||3' Proximal Enhancer:104286|3' Proximal Enhancer:158052, Monocyte; 4:2264747, ZFYVE28||3' Proximal Enhancer:101857|3' Proximal Enhancer:155623, PBMC; 4:23936764, Monocyte; 4:2404284, ZFYVE28||Intron 1:16086, Whole Blood; 4:2439397, LOC402160||Intron 3:18697, Tcell; 4:24796803, SOD3||Proximal Promoter:-281, Whole Blood; 4:25808901, SEL1L3||Intron 9:55709, Monocyte; 4:26177418, Tcell; 4:38666663, FLJ13197||Proximal Promoter:-414, KLF3||Intron 1:874, PBMC,Tcell; 4:38666773, FLJ13197||Proximal Promoter:-524, KLF3||Intron 1:984, PBMC,Tcell; 4:38666918, FLJ13197||Proximal Promoter:-669, KLF3||Intron 1:1129, PBMC,Tcell; 4:38667430, FLJ13197||Proximal Promoter:-1181, KLF3||Intron 1:1641, PBMC,Tcell; 4:38676559, KLF3||Intron 1:10770, PBMC,Tcell; 4:38805732, TLR1||Intron 2:680, Monocyte; 4:40267141, Whole Blood; 4:41366989, LIMCH1||Intron 1:4186, Monocyte; 4:41540115, LIMCH1||Intron 3:177312, Monocyte; 4:47487088, ATP10D||Proximal Promoter:-321, PBMC,Tcell; 4:48045040, NIPAL1||3' Proximal Enhancer:26250, Monocyte; 4:55528138, KIT||Intron 1:4044, Monocyte; 4:55650393, Monocyte; 4:6073656, JAKMIP1||Intron 8:128662, PBMC; 4:62129666, Monocyte; 4:6673551, LOC93622||Proximal Promoter:-2269, Whole Blood; 4:71557171, UTP3||3' Proximal Enhancer:2976, Monocyte; 4:74731300, CXCL1||Distal Promoter:-3808, Monocyte; 4:77226417, CCDC158||3' Proximal Enhancer:102041, FAM47E-STBD1||Intron 6:53565, STBD1||Proximal Promoter:-761, Tcell; 4:7750480, AFAP1||3' Proximal Enhancer:191173, AFAP1-AS1||5' Proximal Enhancer:-5336, Whole Blood; 4:77618676, PBMC,Tcell; 4:77997182, CCNI||Proximal Promoter:-57, PBMC; 4:7812988, AFAP1||Intron 8:128665, Whole Blood; 4:81104695, PRDM8||Proximal Promoter:-1728, Tcell; 4:82796846, PBMC; 4:84034390, PLAC8||Distal Promoter:-3378|Intron 1:1521, Tcell; 4:84035837, PLAC8||Distal Promoter:-4825|Proximal Promoter:74, PBMC; 4:86851399, ARHGAP24||Intron 2:151549|Proximal Promoter:-26, Tcell; 4:88832540, Bcell; 4:89204074, PPM1K||Intron 1:1814, PBMC,Tcell; 4:89299874, HERC6||Proximal Promoter:-16, Tcell; 4:89302999, HERC6||Intron 1:3109, PBMC,Tcell; 4:89378894, HERC5||Intron 1:627, Monocyte,PBMC,Tcell; 4:89379156, HERC5||Intron 1:889, Bcell,Monocyte,Tcell,Whole Blood; 4:89427070, HERC5||Exon 23:48803, Tcell; 4:940644, TMEM175||Intron 1:14383, Whole Blood; 4:940893, TMEM175||Intron 1:14632, Whole Blood; 4:941054, TMEM175||Intron 1:14793, Whole Blood; 4:942005, TMEM175||Intron 3:15744, Whole Blood; 4:94566151, GRID2||Intron 14:1340602, Whole Blood; 4:995931, FGFRL1||5' Proximal Enhancer:-9678|5' Proximal Enhancer:-9828, IDUA||Exon 7:15147, SLC26A1||5' Proximal Enhancer:-8707|5' Proximal Enhancer:-8748, PBMC; 5:102201137, PAM||Proximal Promoter:-389, Monocyte,PBMC; 5:10565679, ANKRD33B||Intron 1:1245, Tcell; 5:10567643, ANKRD33B||Intron 1:3209, Tcell; 5:1110019, Whole Blood; 5:111095049, C5orf13||Distal Promoter:-3101|Intron 2:217579|Proximal Promoter:-1134|Proximal Promoter:-1256|Proximal Promoter:-1650|Proximal Promoter:-1797|Proximal Promoter:-1943|Proximal Promoter:-1945|Proximal Promoter:-2104, Monocyte; 5:118677172, TNFAIP8||Intron 1:72755, Tcell; 5:119799384, PRR16||Proximal Promoter:-634, Monocyte; 5:119802022, PRR16||Intron 1:2004, Monocyte; 5:126220247, MARCH3||Intron 3:146193, Monocyte; 5:131563921, P4HA2||Proximal Promoter:-365|Proximal Promoter:-986, PBMC; 5:133866097, PHF15||Intron 1:4300, PBMC; 5:134071169, CAMLG||Distal Promoter:-3000, SEC24A||3' Proximal Enhancer:86695, PBMC; 5:134786942, C5orf20||Distal Promoter:-3904, TIFAB||Intron 1:1147, Monocyte; 5:135416029, VTRNA2-1||Proximal Promoter:257, Whole Blood; 5:137875267, ETF1||Intron 2:3665, Monocyte,PBMC; 5:138720490, C5orf65||3' Proximal Enhancer:10395, MZB1||3' Proximal Enhancer:5115, SLC23A1||Proximal Promoter:-1451, Monocyte; 5:138725830, C5orf65||3' Proximal Enhancer:5055, MZB1||Proximal Promoter:-225, SLC23A1||5' Proximal Enhancer:-6791, SPATA24||3' Proximal Enhancer:13946, PBMC,Tcell; 5:139047739, CXXC5||Intron 1:19439, Tcell; 5:139511585, IGIP||3' Proximal Enhancer:6065, Tcell; 5:139927007, ANKHD1||3' Proximal Enhancer:145609, ANKHD1-EIF4EBP3||Intron 34:145609, EIF4EBP3||Proximal Promoter:-243, SRA1||3' Proximal Enhancer:10034|3' Proximal Enhancer:10671, PBMC; 5:140186737, PCDHA1||Intron 1:20862, PCDHA2||3' Proximal Enhancer:Intron 1:12294, PCDHA3||3' Proximal Enhancer:Intron 1:5955, PCDHA4||Proximal Promoter:66, Whole Blood; 5:140517411, PCDHB5||Exon 1:2612, Whole Blood;

5:140530222, PCDHB17||5' Proximal Enhancer:-5357, PCDHB6||Proximal Promoter:384, Whole Blood; 5:140887302, DIAPH1||3' Proximal Enhancer:111320, PCDHGA12||Intron 3:77145, PCDHGC3||Intron 3:31734, PCDHGC4||Intron 3:22562, PCDHGC5||Intron 3:18495, Monocyte; 5:141485167, NDFIP1||Distal Promoter:-3156, Whole Blood; 5:142211162, ARHGAP26||Intron 1:60871, Monocyte; 5:14366002, TRIO||Intron 15:222174, Tcell; 5:145305089, Whole Blood; 5:149546366, CDX1||Proximal Promoter:23, Whole Blood; 5:149589210, CAMK2A||3' Proximal Enhancer:80193, SLC6A7||Exon 14:19691, Monocyte,PBMC; 5:149823868, RPS14||Exon 5:5451, Monocyte; 5:152729842, PBMC,Tcell; 5:156594725, FAM71B||Proximal Promoter:-1446, Tcell; 5:156886415, NIPAL4||Proximal Promoter:-611, PBMC; 5:159428643, TTC1||5' Proximal Enhancer:-7536, Monocyte; 5:162929830, MAT2B||Distal Promoter:-2754|Proximal Promoter:-400, Tcell; 5:167551234, ODZ2||Intron 10:839392, Tcell; 5:16843275, MYO10||Intron 2:93110, PBMC; 5:16843297, MYO10||Intron 2:93088, PBMC; 5:16843314, MYO10||Intron 2:93071, PBMC; 5:16864447, MYO10||Intron 2:71938, Whole Blood; 5:172430563, ATP6V0E1||Intron 2:19801, PBMC; 5:172721731, PBMC; 5:176435980, UIMC1||Distal Promoter:-2537|Proximal Promoter:-2185|Proximal Promoter:-2200, Whole Blood; 5:176809747, SLC34A1||Proximal Promoter:-1684, Tcell; 5:177627467, AGXT2L2||3' Proximal Enhancer:32336, HNRNPAB||Distal Promoter:-4040, Monocyte; 5:177941617, COL23A1||Intron 2:75939, Whole Blood; 5:177947425, COL23A1||Intron 2:70131, Whole Blood; 5:179740743, GFPT2||Intron 14:39572, Whole Blood; 5:179740914, GFPT2||Exon 14:39401, Whole Blood; 5:179741104, GFPT2||Intron 13:39211, Whole Blood; 5:179741120, GFPT2||Intron 13:39195, Whole Blood; 5:180478185, BTNL9||Intron 4:10961, Whole Blood; 5:180487084, BTNL9||Exon 11:19860, Whole Blood; 5:180487371, BTNL9||Exon 11:20147, Tcell; 5:180620978, TRIM7||3' Proximal Enhancer:Exon 7:11199|Exon 5:6952|Exon 7:10362, Whole Blood; 5:180674133, GNB2L1||Distal Promoter:-3227, SNORD95||Distal Promoter:-3757, SNORD96A||5' Proximal Enhancer:-5244, TRIM52||3' Proximal Enhancer:13986, PBMC,Tcell; 5:27532684, Monocyte; 5:31106255, Whole Blood; 5:32014638, Tcell; 5:32018601, Monocyte; 5:322735, AHRR||Intron 1:18445, PDCD6||3' Proximal Enhancer:51000, Whole Blood; 5:33727007, ADAMTS12||Intron 3:165117, Whole Blood; 5:39203755, FYB||Intron 1:15925|Intron 1:67004, Monocyte; 5:42924367, Whole Blood; 5:42953624, Whole Blood; 5:43316468, HMGCS1||Distal Promoter:-2873, Whole Blood; 5:56119093, MAP3K1||Intron 1:8194, Monocyte; 5:56268061, Tcell; 5:60631028, ZSWIM6||Intron 1:2929, Monocyte; 5:66296978, MAST4||Intron 3:172375|Intron 4:404803, Monocyte; 5:6737778, PAPD7||5' Proximal Enhancer:-8322|Intron 2:23061, Tcell; 5:71803938, ZNF366||Proximal Promoter:-689, PBMC; 5:75592299, SV2C||Intron 9:212995, Monocyte; 5:78067856, ARSB||3' Proximal Enhancer:214501, PBMC; 5:79535328, SERINC5||Intron 1:16570, Whole Blood; 5:79857871, ANKRD34B||Intron 4:8433, Whole Blood; 5:90508265, Monocyte; 5:94957269, GPR150||Exon 1:1290, PBMC; 5:96881859, PBMC; 6:106042314, Monocyte; 6:107977784, SOBP||Intron 6:166468, Tcell; 6:108486387, NR2E1||Proximal Promoter:-827, PBMC; 6:109036145, PBMC; 6:110680256, C6orf186||Proximal Promoter:-781, Whole Blood; 6:111435084, SLC16A10||Intron 1:26304, Tcell; 6:112438951, LAMA4||Exon 35:136877, Whole Blood; 6:113786051, Whole Blood; 6:119662024, MAN1A1||Intron 2:8902, Monocyte; 6:125623484, HDDC2||Proximal Promoter:-202, PBMC; 6:125623573, HDDC2||Proximal Promoter:-291, Tcell; 6:126071467, HEY2||Intron 1:736, PBMC,Tcell; 6:126240414, NCOA7||Intron 10:Intron 11:128506|Intron 12:Intron 13:138108|Proximal Promoter:45, Tcell; 6:130747460, Whole Blood; 6:132811784, STX7||Intron 2:22553, PBMC; 6:136174534, PDE7B||Intron 1:1701, PBMC; 6:137747335, Whole Blood; 6:138821354, Monocyte; 6:139017779, FLJ46906||Exon 3:4975, Whole Blood; 6:1396771, FOXF2||3' Proximal Enhancer:6703, Tcell; 6:14037614, Monocyte; 6:141804349, Whole Blood; 6:14277043, PBMC,Tcell; 6:143891515, LOC285740||5' Proximal Enhancer:-8330|Proximal Promoter:-1039, Tcell; 6:144150174, PHACTR2||Exon 12:Exon 13:151073|Exon 12:Exon 13:220858, Monocyte; 6:144698834, UTRN||Intron 1:85962, Whole Blood; 6:1449399, Whole Blood; 6:14729722, Bcell; 6:152011415, ESR1||Proximal Promoter:-215, PBMC; 6:152011666, ESR1||Proximal Promoter:36, PBMC,Tcell; 6:154821545, CNKSR3||Intron 1:10208, Whole Blood; 6:156509874, Monocyte; 6:157187520, Monocyte; 6:157254584, PBMC; 6:158492604, SYNJ2||Intron 13:54525|Intron 14:89717, PBMC,Whole Blood; 6:16217825, PBMC; 6:16217882, PBMC; 6:168363958, MLLT4||Exon 30:Intron 29:136288, Whole Blood; 6:168569742, Whole Blood; 6:169978203, WDR27||Intron 21:Intron 24:123956, Whole Blood; 6:170024352, WDR27||Intron 18:Intron 21:77807, Whole Blood; 6:170061104, WDR27||Intron 6:Intron 9:41055, PBMC,Tcell; 6:170189761, C6orf208||Proximal Promoter:-407, C6orf70||3' Proximal Enhancer:38041, LINC00242||Exon 2:9160, Whole Blood; 6:170238811, Whole Blood; 6:170703742, Whole Blood; 6:170816044, Whole Blood; 6:18186411, KDM1B||Intron 8:30793, PBMC; 6:18387360, RNF144B||Proximal Promoter:-220, PBMC; 6:18752614, Whole Blood; 6:21600485, SOX4||3' Proximal Enhancer:6514, Monocyte; 6:21667407, LINC00340||Intron 1:733, Monocyte; 6:21754525, LINC00340||Intron 2:87851, Whole Blood;

6:24910720, Whole Blood; 6:24911001, PBMC,Tcell; 6:26180928, HIST1H2BD||3' Proximal Enhancer:22580, HIST1H2BE||Distal Promoter:-3095, HIST1H4D||3' Proximal Enhancer:8376, Monocyte; 6:26196580, HIST1H2AD||3' Proximal Enhancer:2891, HIST1H2BF||Distal Promoter:-3206, HIST1H3D||3' Proximal Enhancer:2884, HIST1H4D||5' Proximal Enhancer:-7276, HIST1H4E||5' Proximal Enhancer:-8292, Monocyte,PBMC; 6:26235699, HIST1H1D||Proximal Promoter:-483, HIST1H3E||3' Proximal Enhancer:10317, HIST1H4F||Distal Promoter:-4954, Whole Blood; 6:26330584, Tcell; 6:26330589, Tcell; 6:26331295, Tcell; 6:26407505, BTN3A1||Intron 3:5041, Tcell; 6:26440101, BTN2A3P||3' Proximal Enhancer:18483, BTN3A3||Proximal Promoter:-598, Tcell; 6:26442290, BTN3A3||Intron 1:1591, Bcell; 6:27185676, Whole Blood; 6:27778836, HIST1H2AI||3' Proximal Enhancer:2860, HIST1H2AJ||3' Proximal Enhancer:3682, HIST1H2BL||Distal Promoter:-3127, HIST1H2BM||Distal Promoter:-3985, HIST1H3H||3' Proximal Enhancer:995, Bcell,Monocyte,Tcell; 6:27925166, OR2B6||Proximal Promoter:148, Bcell; 6:28173238, TOB2P1||3' Proximal Enhancer:13469, Monocyte; 6:29454672, MAS1L||Exon 1:1007, Monocyte; 6:29454755, MAS1L||Exon 1:924, Monocyte; 6:29593913, GABBR1||Intron 1:2092|Intron 5:Intron 6:7049, Monocyte; 6:29594830, GABBR1||Intron 1:1175|Intron 5:Intron 6:6132, Monocyte; 6:29595506, GABBR1||Intron 4:Intron 5:5456|Proximal Promoter:499, PBMC; 6:29601498, GABBR1||5' Proximal Enhancer:-5493|Proximal Promoter:-536, PBMC; 6:29601556, GABBR1||5' Proximal Enhancer:-5551|Proximal Promoter:-594, PBMC,Tcell; 6:29618347, MOG||5' Proximal Enhancer:-6410, Tcell; 6:29690766, HLA-F||Proximal Promoter:-350, HLA-F-AS1||3' Proximal Enhancer:26060, Whole Blood; 6:29690889, HLA-F||Proximal Promoter:-227, HLA-F-AS1||3' Proximal Enhancer:25937, Whole Blood; 6:29692035, HLA-F||Exon 3:919, HLA-F-AS1||3' Proximal Enhancer:24791, PBMC,Whole Blood; 6:29692082, HLA-F||Exon 3:966, HLA-F-AS1||3' Proximal Enhancer:24744, Bcell,Monocyte; 6:29692085, HLA-F||Exon 3:969, HLA-F-AS1||3' Proximal Enhancer:24741, Bcell,Monocyte; 6:29692092, HLA-F||Exon 3:976, HLA-F-AS1||3' Proximal Enhancer:24734, Bcell,Monocyte; 6:29692111, HLA-F||Exon 3:995, HLA-F-AS1||3' Proximal Enhancer:24715, Monocyte,PBMC; 6:29696647, HLA-F||3' Proximal Enhancer:5531, HLA-F-AS1||Intron 1:Intron 4:20179, Tcell; 6:29696650, HLA-F||3' Proximal Enhancer:5534, HLA-F-AS1||Intron 1:Intron 4:20176, Tcell; 6:29701563, HLA-F||3' Proximal Enhancer:10447, HLA-F-AS1||Intron 1:Intron 4:15263, Whole Blood; 6:29702509, HLA-F||3' Proximal Enhancer:11393, HLA-F-AS1||Intron 1:Intron 4:14317, Whole Blood; 6:29706048, HLA-F-AS1||Exon 4:Intron 1:10778, Whole Blood; 6:29723301, HLA-F-AS1||5' Proximal Enhancer:-6475, IFITM4P||Distal Promoter:-4376, Whole Blood; 6:29894050, HCG4B||Proximal Promoter:-622, Whole Blood; 6:29894141, HCG4B||Proximal Promoter:-713, Whole Blood; 6:29894152, HCG4B||Proximal Promoter:-724, Whole Blood; 6:29894162, HCG4B||Proximal Promoter:-734, Whole Blood; 6:29894195, HCG4B||Proximal Promoter:-767, Whole Blood; 6:29894197, HCG4B||Proximal Promoter:-769, Whole Blood; 6:29906977, HLA-A||Distal Promoter:-3269, Whole Blood; 6:29911494, HLA-A||Intron 3:1248, Monocyte; 6:29913343, HLA-A||Exon 8:3097, Whole Blood; 6:29942706, HCG9||Proximal Promoter:-185, Whole Blood; 6:29944670, HCG9||Intron 1:1779, Whole Blood; 6:30010457, Tcell; 6:30040291, PPP1R11||3' Proximal Enhancer:5360, RNF39||Intron 3:3335|Intron 3:3337, ZNRD1||3' Proximal Enhancer:11256, Whole Blood; 6:30116341, TRIM10||3' Proximal Enhancer:12370, TRIM40||Exon 5:11832, Whole Blood; 6:30120915, TRIM10||Exon 7:Exon 8:7796, TRIM40||3' Proximal Enhancer:16406, Whole Blood; 6:30127322, TRIM10||Intron 1:1389, TRIM15||Distal Promoter:-3660, Whole Blood; 6:30140231, TRIM15||Exon 7:9249, PBMC; 6:30421327, Whole Blood; 6:30581820, MRPS18B||Distal Promoter:-3665, PPP1R10||Intron 2:3200, Monocyte; 6:30703704, FLOT1||Intron 8:6749, IER3||3' Proximal Enhancer:8623, Monocyte; 6:30704809, FLOT1||Intron 8:5644, IER3||3' Proximal Enhancer:7518, Monocyte; 6:30711805, FLOT1||Proximal Promoter:-1352, IER3||Exon 2:522, Whole Blood; 6:30881643, GTF2H4||Exon 14:5667, VARS2||Proximal Promoter:-338|Proximal Promoter:-464, PBMC; 6:30881645, GTF2H4||Exon 14:5669, VARS2||Proximal Promoter:-336|Proximal Promoter:-462, PBMC; 6:30881664, GTF2H4||Exon 14:5688, VARS2||Proximal Promoter:-317|Proximal Promoter:-443, PBMC; 6:31107186, CCHCR1||3' Proximal Enhancer:18380|3' Proximal Enhancer:18829, PSORS1C2||Proximal Promoter:-59, Whole Blood; 6:31206695, Whole Blood; 6:31238908, HLA-C||Exon 3:1005, Whole Blood; 6:31240784, HLA-C||Proximal Promoter:-871, Whole Blood; 6:31240814, HLA-C||Proximal Promoter:-901, Whole Blood; 6:31322577, HLA-B||Intron 5:2412, Monocyte; 6:31322914, HLA-B||Exon 5:2075, Monocyte,Whole Blood; 6:31323397, HLA-B||Intron 3:1592, Monocyte,Whole Blood; 6:31323677, HLA-B||Intron 3:1312, Bcell,Monocyte,Whole Blood; 6:31325817, HLA-B||Proximal Promoter:-828, Whole Blood; 6:31431312, HCG26||5' Proximal Enhancer:-7693, HCP5||Proximal Promoter:356, Bcell,Monocyte,PBMC; 6:31431407, HCG26||5' Proximal Enhancer:-7598, HCP5||Proximal Promoter:451, Bcell,Monocyte,Whole Blood; 6:31431475, HCG26||5' Proximal Enhancer:-7530, HCP5||Exon 2:519, PBMC; 6:31431503, HCG26||5' Proximal Enhancer:-7502, HCP5||Exon 2:547, Bcell,Monocyte,Whole Blood; 6:31431573, HCG26||5' Proximal Enhancer:-7432, HCP5||Exon 2:617, Monocyte,PBMC; 6:31431902,

HCG26||5' Proximal Enhancer:-7103, HCP5||Exon 2:946, Monocyte,PBMC; 6:31431969, HCG26||5' Proximal Enhancer:-7036, HCP5||Exon 2:1013, Bcell,Monocyte; 6:31680228, LY6G6C||3' Proximal Enhancer:9283, LY6G6D||Distal Promoter:-2904, LY6G6E||Exon 3:Intron 2:1614, LY6G6F||3' Proximal Enhancer:5545, PBMC; 6:31683120, C6orf25||5' Proximal Enhancer:-8000, LY6G6C||3' Proximal Enhancer:6391, LY6G6D||Proximal Promoter:-12, LY6G6E||Proximal Promoter:-1278, LY6G6F||3' Proximal Enhancer:8437, PBMC; 6:31760593, LSM2||3' Proximal Enhancer:14168, VARS||Exon 4:3119, Monocyte; 6:31760616, LSM2||3' Proximal Enhancer:14145, VARS||Exon 4:3096, Monocyte; 6:31761055, LSM2||3' Proximal Enhancer:13706, VARS||Intron 2:2657, Monocyte; 6:31864574, C2||Distal Promoter:-4201, EHMT2||Exon 3:890, ZBTB12||3' Proximal Enhancer:5195, Monocyte; 6:32086857, ATF6B||Exon 10:9160, FKBPL||3' Proximal Enhancer:11210, TNXB||5' Proximal Enhancer:-9706, PBMC; 6:32086878, ATF6B||Exon 10:9139, FKBPL||3' Proximal Enhancer:11189, TNXB||5' Proximal Enhancer:-9727, PBMC; 6:32086893, ATF6B||Exon 10:9124, FKBPL||3' Proximal Enhancer:11174, TNXB||5' Proximal Enhancer:-9742, PBMC; 6:32306089, C6orf10||Intron 10:33567, Whole Blood; 6:32556475, HLA-DRB1||Intron 1:1138, Monocyte; 6:32632331, HLA-DQB1||Intron 2:2135, Whole Blood; 6:32632334, HLA-DQB1||Intron 2:2132, Whole Blood; 6:32632957, HLA-DQB1||Intron 1:1509, Whole Blood; 6:32633163, HLA-DQB1||Intron 1:1303, Whole Blood; 6:32822911, LOC100507463||3' Proximal Enhancer:11049, PSMB9||Intron 1:974, TAP1||Proximal Promoter:-1163, PBMC,Tcell; 6:32823078, LOC100507463||3' Proximal Enhancer:11216, PSMB9||Intron 1:1141, TAP1||Proximal Promoter:-1330, PBMC; 6:32823116, LOC100507463||3' Proximal Enhancer:11254, PSMB9||Intron 1:1179, TAP1||Proximal Promoter:-1368, Bcell; 6:32823566, LOC100507463||3' Proximal Enhancer:11704, PSMB9||Intron 1:1629, TAP1||Proximal Promoter:-1818, Tcell; 6:32823588, LOC100507463||3' Proximal Enhancer:11726, PSMB9||Intron 1:1651, TAP1||Proximal Promoter:-1840, PBMC; 6:32823941, LOC100507463||3' Proximal Enhancer:12079, PSMB9||Exon 2:2004, TAP1||Proximal Promoter:-2193, Tcell; 6:32825139, PSMB9||Exon 3:3202, TAP1||Distal Promoter:-3391, PBMC,Tcell; 6:32825148, PSMB9||Exon 3:3211, TAP1||Distal Promoter:-3400, PBMC,Tcell; 6:32828996, PSMB9||3' Proximal Enhancer:7059, TAP1||5' Proximal Enhancer:-7248, Tcell; 6:32905320, HLA-DMB||Intron 2:3527, Bcell; 6:33128825, COL11A2||3' Proximal Enhancer:31420, Whole Blood; 6:33161276, COL11A2||Proximal Promoter:-1031, RXRB||3' Proximal Enhancer:7156, SLC39A7||5' Proximal Enhancer:-7326, PBMC; 6:33161292, COL11A2||Proximal Promoter:-1047, RXRB||3' Proximal Enhancer:7140, SLC39A7||5' Proximal Enhancer:-7310, PBMC; 6:33245701, B3GALT4||Exon 1:785, RPS18||3' Proximal Enhancer:5850, VPS52||5' Proximal Enhancer:-6039, WDR46||3' Proximal Enhancer:11603, PBMC; 6:33245739, B3GALT4||Exon 1:823, RPS18||3' Proximal Enhancer:5888, VPS52||5' Proximal Enhancer:-6077, WDR46||3' Proximal Enhancer:11565, PBMC; 6:33245804, B3GALT4||Exon 1:888, RPS18||3' Proximal Enhancer:5953, VPS52||5' Proximal Enhancer:-6142, WDR46||3' Proximal Enhancer:11500, PBMC,Tcell; 6:33397594, SYNGAP1||Intron 3:9748, Bcell; 6:33397710, SYNGAP1||Intron 3:9864, Bcell; 6:33872206, LOC100507584||5' Proximal Enhancer:-7522, Tcell; 6:33872837, LOC100507584||5' Proximal Enhancer:-8153, Tcell; 6:35420754, FANCE||Intron 1:617, PBMC,Tcell; 6:35490744, Monocyte; 6:35490818, Monocyte,PBMC; 6:35654363, FKBP5||Intron 1:2329|Intron 1:2356|Intron 2:41997, Whole Blood; 6:35696870, ARMC12||5' Proximal Enhancer:-7988, LOC285847||Intron 7:7854, PBMC,Tcell; 6:36737623, CPNE5||Intron 10:69597, PBMC,Tcell; 6:37016869, Tcell; 6:37142220, PIM1||Exon 6:4299, Monocyte; 6:37321337, RNF8||Proximal Promoter:-410, Monocyte; 6:38035488, ZFAND3||Intron 3:248182, Monocyte; 6:39195019, KCNK5||Intron 1:2232, Tcell; 6:41383225, Whole Blood; 6:42417938, TRERF1||Intron 2:1845, Tcell; 6:42739639, Monocyte; 6:42752685, Tcell; 6:42754477, PBMC; 6:43200203, C6orf108||Distal Promoter:-2992, CUL9||3' Proximal Enhancer:50282, Whole Blood; 6:447226, Tcell; 6:56607099, PBMC; 6:5979967, Monocyte; 6:70501068, LMBRD1||Intron 1:5981, Monocyte; 6:70507230, LMBRD1||Proximal Promoter:-181, PBMC; 6:71022072, COL9A1||5' Proximal Enhancer:-9286, Whole Blood; 6:71376634, SMAP1||Proximal Promoter:-844, Monocyte; 6:72199637, Monocyte; 6:73329475, KCNQ5||Proximal Promoter:-2095, Tcell; 6:7611002, SNRNP48||Exon 9:20571, PBMC; 6:7692342, Whole Blood; 6:79620031, Monocyte; 6:87830264, Tcell; 6:91004430, BACH2||Intron 1:2132|Intron 1:2197, Tcell; 6:91004452, BACH2||Intron 1:2110|Intron 1:2175, Tcell; 6:95220995, Whole Blood; 6:99283652, POU3F2||Exon 1:1073, PBMC; 7:101335435, PBMC; 7:1015501, COX19||Proximal Promoter:-266, CYP2W1||5' Proximal Enhancer:-7333, Whole Blood; 7:101555711, CUX1||Intron 1:94830|Intron 1:96424|Intron 1:96528, Monocyte; 7:101556907, CUX1||Intron 1:96026|Intron 1:97620|Intron 1:97724, Monocyte; 7:101837148, CUX1||Exon 12:377861|Exon 12:Exon 13:377965|Exon 13:376267, Whole Blood; 7:101928206, MIR4285||5' Proximal Enhancer:-8162, SH2B2||Proximal Promoter:-198, Monocyte; 7:102036050, LOC100630923||Intron 4:31743, PRKRIP1||Proximal Promoter:-753, Tcell; 7:105163736, PUS7||Proximal Promoter:-1051, RINT1||5' Proximal Enhancer:-8795, Whole Blood; 7:105290218, ATXN7L1||Intron 2:29391|Intron 4:226813, PBMC; 7:105348517, ATXN7L1||Intron 3:168514,

Tcell; 7:105672016, CDHR3||Intron 18:68360, PBMC; 7:106377373, Monocyte; 7:1105321, GPR146||3' Proximal Enhancer:8181, PBMC; 7:112062682, IFRD1||Proximal Promoter:-516, Whole Blood; 7:112213418, Tcell; 7:116786597, ST7-AS2||Proximal Promoter:-983, Monocyte; 7:123198305, NDUFA5||Proximal Promoter:-347, Tcell; 7:12411370, VWDE||Intron 10:32482, Whole Blood; 7:124404324, GPR37||Exon 1:1357, Whole Blood; 7:12444013, VWDE||Proximal Promoter:-161, Whole Blood; 7:127031314, ZNF800||Intron 2:1453, Tcell; 7:1271925, UNCX||Proximal Promoter:-728, PBMC; 7:127506210, SND1||Intron 12:214009, Whole Blood; 7:127540997, SND1||Intron 13:248796, Monocyte; 7:127556278, SND1||Intron 14:264077, Monocyte; 7:127950724, RBM28||Exon 15:Exon 19:33238, Whole Blood; 7:127991421, PRRT4||Exon 6:10318, RBM28||5' Proximal Enhancer:-7459, PBMC; 7:128116412, METTL2B||Proximal Promoter:-370, Tcell; 7:128550410, KCP||Proximal Promoter:363, PBMC; 7:130712346, FLJ43663||Intron 1:79443|Intron 2:81216, Tcell; 7:130789013, FLJ43663||Intron 1:2776|Intron 1:4549, MKLN1||5' Proximal Enhancer:-5841, PBMC; 7:134849633, C7orf49||3' Proximal Enhancer:4593|3' Proximal Enhancer:5643|3' Proximal Enhancer:5945, TMEM140||Exon 2:16868, Whole Blood; 7:135346500, C7orf73||Proximal Promoter:-720, Whole Blood; 7:139759577, PARP12||Intron 1:3944, Monocyte; 7:139760375, PARP12||Intron 1:3146, PBMC,Tcell; 7:139760671, PARP12||Intron 1:2850, Bcell,Monocyte,Tcell,Whole Blood; 7:139761087, PARP12||Intron 1:2434, Monocyte,Tcell,Whole Blood; 7:141136170, LOC100507421||Intron 2:362139, PBMC,Tcell; 7:142417964, PBMC; 7:143077178, ZYX||Proximal Promoter:-1181, PBMC,Tcell; 7:150263322, GIMAP4||Proximal Promoter:-1135, PBMC; 7:150445533, GIMAP1-GIMAP5||3' Proximal Enhancer:31889, GIMAP5||3' Proximal Enhancer:11098, LOC100128542||Proximal Promoter:-1290, Tcell; 7:150642256, KCNH2||3' Proximal Enhancer:Exon 11:10661|3' Proximal Enhancer:Exon 15:33146, Monocyte; 7:150707830, ATG9B||3' Proximal Enhancer:13756, NOS3||3' Proximal Enhancer:16939|Exon 22:19687, Tcell; 7:150726136, ABCB8||Intron 1:627, ATG9B||Distal Promoter:-4550, Monocyte; 7:150744274, ABCB8||Exon 16:18765, ACCN3||Proximal Promoter:-1330, CDK5||3' Proximal Enhancer:10778, Monocyte; 7:151442481, PRKAG2||Intron 3:131835|Intron 3:69476, Tcell; 7:1517970, INTS1||Intron 33:26048, Whole Blood; 7:154958660, Whole Blood; 7:155794668, Whole Blood; 7:15651770, MEOX2||Exon 3:74538, Whole Blood; 7:157185402, DNAJB6||3' Proximal Enhancer:55693|Intron 8:55692, PBMC; 7:157647109, LOC100506585||Proximal Promoter:-167, Tcell; 7:158250911, Whole Blood; 7:158250978, Whole Blood; 7:158325586, MIR595||Proximal Promoter:-81, Whole Blood; 7:158816149, LOC154822||Intron 4:15105, VIPR2||3' Proximal Enhancer:121500, Tcell; 7:1588319, MAFK||3' Proximal Enhancer:17952, TMEM184A||Exon 7:7747, Whole Blood; 7:16505589, SOSTDC1||Proximal Promoter:-115, Whole Blood; 7:16505617, SOSTDC1||Proximal Promoter:-143, Whole Blood; 7:17316151, Monocyte; 7:1886391, MAD1L1||Intron 18:386192, MIR4655||Distal Promoter:-2502, Whole Blood; 7:1923695, Whole Blood; 7:1948755, Whole Blood; 7:1976457, Whole Blood; 7:2019874, Whole Blood; 7:2050401, Whole Blood; 7:21470054, SP4||Exon 3:2366, Tcell; 7:22007577, PBMC,Tcell; 7:2289888, FTSJ2||5' Proximal Enhancer:-8055, NUDT1||Intron 3:7349|Intron 3:Intron 4:8032|Intron 4:7993, SNX8||3' Proximal Enhancer:64211, Whole Blood; 7:2444010, CHST12||Intron 1:816, Tcell; 7:2444210, CHST12||Intron 1:1016, Tcell; 7:2444534, CHST12||Intron 1:1340, Bcell,Tcell,Whole Blood; 7:24446070, Whole Blood; 7:2445331, CHST12||Intron 1:2137, Bcell; 7:2556962, LFNG||Distal Promoter:-2516|Intron 2:4800|Proximal Promoter:-534, MIR4648||5' Proximal Enhancer:-9745, Tcell; 7:26333984, SNX10||Intron 1:2470, Tcell; 7:2648222, IQCE||Intron 20:Intron 21:49591, Monocyte; 7:28220594, JAZF1||Proximal Promoter:-157, JAZF1-AS1||Intron 1:519, Tcell; 7:28386631, CREB5||Intron 1:47692, Monocyte; 7:30030333, SCRN1||Proximal Promoter:-428|Proximal Promoter:-599|Proximal Promoter:-908, PBMC; 7:30185776, C7orf41||Intron 1:11225, PBMC,Tcell; 7:32109831, PDE1C||Intron 1:635|Intron 2:1149|Intron 2:1214|Intron 3:228552, Whole Blood; 7:32358064, Whole Blood; 7:32358540, Whole Blood; 7:35074628, DPY19L1||Intron 1:3025, PBMC; 7:38344983, Whole Blood; 7:4255780, SDK1||Intron 12:86464|Intron 38:914701, Whole Blood; 7:45075791, CCM2||Intron 1:36005|Intron 1:36447|Intron 1:8559, Tcell; 7:45232211, RAMP3||3' Proximal Enhancer:34845, Tcell; 7:4746437, FOXK1||Intron 1:24508, Monocyte; 7:4746462, FOXK1||Intron 1:24533, Monocyte; 7:47580148, TNS3||Intron 1:41594, Whole Blood; 7:5000111, MMD2||Proximal Promoter:-1267, Whole Blood; 7:50464661, IKZF1||Intron 2:Intron 3:Intron 4:Intron 5:Intron 6:Intron 7:120284, Monocyte; 7:556429, FLJ44511||Distal Promoter:-3598, PDGFA||Intron 2:3052, PBMC,Tcell; 7:55756785, FKBP9L||Intron 3:15475|Proximal Promoter:-1060|Proximal Promoter:209|Proximal Promoter:368, PBMC; 7:5937190, CCZ1||Proximal Promoter:-1150, Whole Blood; 7:624424, PRKAR1B||Intron 7:127737|Intron 7:128153|Intron 7:128420|Intron 7:142554|Intron 7:142889, Whole Blood; 7:64126140, ZNF107||Proximal Promoter:-370, Monocyte,Tcell; 7:6680085, Tcell; 7:6836436, CCZ1B||3' Proximal Enhancer:29490, RSPH10B||, RSPH10B2||, Whole Blood; 7:6861742, CCZ1B||Intron 6:4184, Whole Blood; 7:6894869, Monocyte,PBMC; 7:70139561, AUTS2||Intron 5:1075656|Intron 5:1075657, PBMC,Tcell; 7:72738631, FKBP6||Distal Promoter:-3523|Distal Promoter:-3668,

TRIM50||Exon 2:3454, PBMC; 7:72813978, Whole Blood; 7:72838671, FZD9||5' Proximal Enhancer:-9437, PBMC; 7:74573718, GTF2IRD2B||3' Proximal Enhancer:65372, NCF1C||Exon 9:14098, PBMC; 7:74573749, GTF2IRD2B||3' Proximal Enhancer:65403, NCF1C||Exon 9:14067, PBMC; 7:75053134, NSUN5P1||3' Proximal Enhancer:13511, POM121C||Intron 12:62434, PBMC; 7:751233, PRKAR1B||Intron 1:1344|Intron 1:15745|Intron 1:16080|Intron 1:1611|Intron 1:928, PBMC; 7:751331, PRKAR1B||Intron 1:1246|Intron 1:1513|Intron 1:15647|Intron 1:15982|Intron 1:830, PBMC,Tcell; 7:76094015, DTX2||Intron 1:Intron 2:3044, FDPSL2A||3' Proximal Enhancer:10302, Whole Blood; 7:76145562, UPK3B||Intron 4:Intron 6:5818, Whole Blood; 7:767490, HEATR2||Intron 1:1153, PRKAR1B||Proximal Promoter:-177|Proximal Promoter:-512, Tcell; 7:77429766, PHTF2||Intron 1:1658, TMEM60||Proximal Promoter:-2019, Monocyte; 7:81399747, HGF||Proximal Promoter:-295, Tcell; 7:817454, HEATR2||Intron 11:51117, Whole Blood; 7:91795363, LRRD1||Proximal Promoter:-773, Whole Blood; 7:92238207, CDK6||Exon 8:225024|Exon 8:227734, PBMC; 7:92818323, HEPACAM2||Exon 10:37459|Exon 9:30547, Whole Blood; 7:93190462, Bcell; 7:93960063, Whole Blood; 7:965534, ADAP1||Intron 3:28755, Tcell; 7:98991138, ARPC1B||Intron 8:18841, PDAP1||3' Proximal Enhancer:15167, PBMC; 7:99612773, ZKSCAN1||Proximal Promoter:-445, Monocyte; 7:99766552, GAL3ST4||Proximal Promoter:-179, GPC2||3' Proximal Enhancer:8438, STAG3||5' Proximal Enhancer:-8985, PBMC; 8:10488231, RP1L1||Intron 1:24386, Monocyte,PBMC; 8:107672853, OXR1||Intron 1:2818|Intron 2:212702|Intron 3:390448, Monocyte; 8:109235928, EIF3E||Intron 7:25031, Whole Blood; 8:11182872, MTMR9||Exon 10:40873, SLC35G5||5' Proximal Enhancer:-5622, Monocyte; 8:11203954, TDH||Intron 1:6809, Whole Blood; 8:11350853, BLK||Proximal Promoter:-667, Monocyte; 8:11413234, BLK||Intron 8:61714, PBMC; 8:121714454, SNTB1||Intron 1:109855, Tcell; 8:124284176, ZHX1||Intron 1:3605, ZHX1-C8ORF76||, Tcell; 8:125617225, MTSS1||Intron 3:123505, PBMC; 8:125935564, Whole Blood; 8:128427306, POU5F1B||Proximal Promoter:-550, Whole Blood; 8:128808554, MIR1204||Proximal Promoter:347, PVT1||Intron 1:1776, PBMC,Tcell; 8:128810708, MIR1204||3' Proximal Enhancer:2501, PVT1||Intron 1:3930, PBMC,Tcell; 8:130952644, FAM49B||Proximal Promoter:-644, Tcell; 8:131054408, ASAP1||3' Proximal Enhancer:401498, Monocyte; 8:131217021, Monocyte; 8:131414614, Bcell; 8:133118481, HHLA1||Proximal Promoter:-969, Whole Blood; 8:134094173, SLA||Intron 1:21137, TG||Intron 41:214969, Tcell; 8:135609134, ZFAT||Intron 6:Intron 7:116158|Intron 7:Intron 8:99667, ZFAT-AS1||Proximal Promoter:-1179, Monocyte; 8:1365049, Whole Blood; 8:140926709, TRAPPC9||Intron 19:541152|Intron 19:541969, Whole Blood; 8:142548839, Monocyte; 8:143382226, TSNARE1||Intron 9:102317, Monocyte; 8:143561205, BAI1||Intron 8:15829, Whole Blood; 8:143645661, Whole Blood; 8:144070338, LOC100133669||Intron 1:29469, Bcell,Monocyte,PBMC; 8:144399335, TOP1MT||Intron 10:17715, Whole Blood; 8:144443217, C8orf51||3' Proximal Enhancer:7588, RHPN1||5' Proximal Enhancer:-7807, Bcell; 8:144626190, GSDMD||5' Proximal Enhancer:-9366, ZC3H3||Distal Promoter:-2570, Whole Blood; 8:144636462, GSDMD||Distal Promoter:-4014|Intron 1:906, Whole Blood; 8:144690956, PYCRL||Intron 1:828, TIGD5||3' Proximal Enhancer:10883, TSTA3||3' Proximal Enhancer:8776, Whole Blood; 8:144715010, ZNF623||Distal Promoter:-3362, Whole Blood; 8:144917532, NRBP2||Exon 18:5614, PUF60||5' Proximal Enhancer:-5995|5' Proximal Enhancer:-6336, Monocyte; 8:144946818, EPPK1||Exon 1:616, Whole Blood; 8:145003776, PLEC||Intron 23:12916|Intron 23:14334|Intron 23:15129|Intron 23:21268|Intron 23:24312|Intron 23:43921|Intron 23:9982|Intron 24:47137, Tcell; 8:145022842, MIR661||Distal Promoter:-3395, PLEC||5' Proximal Enhancer:-6150|5' Proximal Enhancer:-9084|Distal Promoter:-3937|Distal Promoter:-4732|Intron 1:2202|Intron 1:24855|Intron 1:5246|Intron 2:28071, Tcell; 8:145025178, MIR661||5' Proximal Enhancer:-5731, PLEC||5' Proximal Enhancer:-6273|5' Proximal Enhancer:-7068|5' Proximal Enhancer:-8486|Intron 1:22519|Intron 1:2910|Intron 2:25735|Proximal Promoter:-134, Tcell; 8:145043333, PARP10||3' Proximal Enhancer:17302, PBMC; 8:145061291, GRINA||Distal Promoter:-2934, PARP10||Proximal Promoter:-656, Monocyte; 8:145068773, GRINA||3' Proximal Enhancer:4548, PARP10||5' Proximal Enhancer:-8138, PBMC; 8:1789169, ARHGEF10||Intron 1:17021, Whole Blood; 8:1792758, ARHGEF10||Intron 2:20610, Whole Blood; 8:1822186, ARHGEF10||Intron 7:50038, Whole Blood; 8:1920950, KBTBD11||Proximal Promoter:-1093, Tcell; 8:20077936, ATP6V1B2||Exon 14:23233, Monocyte; 8:20080666, ATP6V1B2||3' Proximal Enhancer:25963, Monocyte; 8:21604831, GFRA2||Intron 2:Intron 3:Intron 4:41515, Monocyte; 8:216453, Whole Blood; 8:216659, Whole Blood; 8:216703, Whole Blood; 8:21899862, FGF17||Proximal Promoter:-565, NPM2||3' Proximal Enhancer:17509, Tcell; 8:21918075, EPB49||Intron 1:1390|Intron 1:2700|Intron 1:5748|Intron 1:6995, Tcell; 8:22414555, SORBS3||5' Proximal Enhancer:-8623|Intron 4:5305, Monocyte; 8:22456092, C8orf58||Proximal Promoter:-1021, KIAA1967||5' Proximal Enhancer:-6052|5' Proximal Enhancer:-6446, PDLIM2||3' Proximal Enhancer:18106|3' Proximal Enhancer:19839, PBMC; 8:22773857, PEBP4||Intron 3:11564, PBMC,Tcell; 8:23018464, TNFRSF10D||Intron 1:3076, Tcell; 8:2481226, Whole Blood; 8:28479277, PBMC; 8:29607076, C8orf75||Proximal Promoter:-1451, Tcell; 8:29719552, PBMC; 8:29886272, Tcell; 8:34764927, Whole Blood;

8:37119428, Monocyte,PBMC,Tcell; 8:38847958, ADAM9||5' Proximal Enhancer:-6546, HTRA4||3' Proximal Enhancer:16291, TM2D2||Exon 4:6083, Whole Blood; 8:41505696, ANK1||3' Proximal Enhancer:149444|3' Proximal Enhancer:17108|3' Proximal Enhancer:248584, NKX6-3||Proximal Promoter:-818, Monocyte; 8:41895100, KAT6A||Intron 2:Intron 3:14405, Monocyte,PBMC; 8:42129353, IKBKB||Intron 1:534, Bcell; 8:42946331, FNTA||3' Proximal Enhancer:34890, SGK196||Proximal Promoter:-2325, Monocyte,PBMC; 8:52874692, Monocyte,PBMC; 8:53326668, ST18||Distal Promoter:-4229, Whole Blood; 8:582908, Tcell; 8:584296, Monocyte; 8:599963, Monocyte,Tcell; 8:600039, Monocyte,Tcell; 8:600233, Monocyte,Tcell; 8:61593696, CHD7||Intron 1:2373, PBMC; 8:6282955, MCPH1||Intron 3:18843, Bcell; 8:65714735, CYP7B1||Distal Promoter:-3387, Monocyte; 8:6655944, Monocyte,PBMC; 8:67592861, C8orf44||Exon 3:13075, C8orf44-SGK3||Intron 2:13075, Bcell,PBMC,Tcell; 8:69246056, C8orf34||Intron 1:3100, LOC286189||Proximal Promoter:-2330, Monocyte; 8:72534391, Whole Blood; 8:7332846, DEFB104A||, DEFB104B||, DEFB106A||, DEFB106B||, Whole Blood; 8:75896025, CRISPLD1||Proximal Promoter:-682, Monocyte; 8:80523191, STMN2||Proximal Promoter:143, Whole Blood; 8:8204802, SGK223||Intron 2:34455, Tcell; 8:91681699, Whole Blood; 8:92570895, Whole Blood; 8:95962352, TP53INP1||Proximal Promoter:-737, Whole Blood; 8:95962383, TP53INP1||Proximal Promoter:-768, Whole Blood; 8:95962463, TP53INP1||Proximal Promoter:-848, Whole Blood; 8:97174382, GDF6||Proximal Promoter:-1362, Whole Blood; 8:97657211, PGCP||Proximal Promoter:-287, PBMC; 8:97657259, PGCP||Proximal Promoter:-239, PBMC; 8:97658325, PGCP||Intron 1:827, PBMC,Tcell; 8:987739, Monocyte,PBMC; 9:100394654, NCBP1||Proximal Promoter:-1050, TSTD2||Intron 1:1308, Tcell; 9:100850391, NANS||3' Proximal Enhancer:31433, TRIM14||Intron 5:31089|Intron 5:31097, Bcell,Monocyte,Whole Blood; 9:100880960, CORO2A||3' Proximal Enhancer:54214|3' Proximal Enhancer:73996, TRIM14||Intron 1:520|Intron 1:528, PBMC; 9:101820844, COL15A1||Intron 35:114707, PBMC; 9:112080848, EPB41L4B||Intron 1:2173, Tcell; 9:123475367, MEGF9||Intron 1:1398, Monocyte; 9:124988720, LHX6||Distal Promoter:-4701|Exon 3:1145|Exon 4:1987|Exon 4:2371, Whole Blood; 9:124989294, LHX6||5' Proximal Enhancer:-5275|Exon 2:571|Exon 3:1413|Exon 3:1797, Whole Blood; 9:124989337, LHX6||5' Proximal Enhancer:-5318|Intron 1:528|Intron 2:1370|Intron 2:1754, Whole Blood; 9:125873915, MIR600||Proximal Promoter:7, MIR600HG||Exon 1:3841, STRBP||3' Proximal Enhancer:156928|3' Proximal Enhancer:156940, PBMC; 9:126776767, LHX2||Intron 2:2879, Tcell; 9:129377854, LMX1B||Intron 2:1133, Whole Blood; 9:130212550, LRSAM1||Proximal Promoter:-1214|Proximal Promoter:-1238|Proximal Promoter:-1983, RPL12||Intron 2:1161, SNORA65||Proximal Promoter:-1634, ZNF79||3' Proximal Enhancer:25898, Tcell; 9:130546644, CDK9||Proximal Promoter:-1660, MIR2861||Proximal Promoter:-1552, MIR3960||Proximal Promoter:-1467, SH2D3C||5' Proximal Enhancer:-5596, PBMC; 9:130661175, ST6GALNAC4||3' Proximal Enhancer:18130, ST6GALNAC6||Intron 1:696, PBMC; 9:130712990, FAM102A||Intron 3:29822|Proximal Promoter:3, PBMC; 9:130713088, FAM102A||Intron 3:29724|Proximal Promoter:-95, Tcell; 9:131549075, TBC1D13||Proximal Promoter:-434, PBMC; 9:132646360, FNBP1||3' Proximal Enhancer:159113, USP20||3' Proximal Enhancer:48604|3' Proximal Enhancer:48665, Tcell; 9:133710064, ABL1||Intron 1:120797|Proximal Promoter:-766, PBMC; 9:134139878, FAM78A||Intron 1:12028, PBMC; 9:136397058, ADAMTSL2||Distal Promoter:-2916|Proximal Promoter:-227, TMEM8C||5' Proximal Enhancer:-6990, Whole Blood; 9:136565608, SARDH||Intron 13:37871|Intron 13:39469, Tcell; 9:136567064, SARDH||Intron 13:36415|Intron 13:38013, Tcell; 9:137174989, Monocyte,PBMC; 9:139221076, DKFZP434A062||Exon 1:703, GPSM1||Proximal Promoter:-855, Tcell; 9:139644102, LCN10||5' Proximal Enhancer:-6691, LCN15||3' Proximal Enhancer:14863, LCN6||Proximal Promoter:-1122, LCN8||3' Proximal Enhancer:8629, LOC100128593||Exon 3:3490, Bcell,Monocyte; 9:139796499, PBMC,Tcell,Whole Blood; 9:139842749, C8G||3' Proximal Enhancer:3052, FBXW5||Distal Promoter:-3543, LCN12||Distal Promoter:-4018, Monocyte; 9:139926740, ABCA2||Distal Promoter:-3366|Distal Promoter:-4000, C9orf139||Exon 2:4825, FUT7||Exon 1:552, NPDC1||3' Proximal Enhancer:13936, Tcell; 9:139939792, ENTPD2||3' Proximal Enhancer:8711, NPDC1||Intron 1:884, Tcell; 9:140343854, ENTPD8||5' Proximal Enhancer:-7953, NELF||Exon 14:Exon 15:Exon 16:9932, Tcell; 9:140352188, NELF||Exon 3:1598, PNPLA7||3' Proximal Enhancer:92798, Monocyte; 9:140612549, EHMT1||Intron 3:99106, PBMC; 9:140703588, Monocyte; 9:140703637, Monocyte; 9:15307873, TTC39B||Proximal Promoter:-515, PBMC; 9:20339790, MLLT3||3' Proximal Enhancer:282724, PBMC; 9:32525008, DDX58||Intron 1:1314, Bcell,Monocyte,PBMC,Tcell; 9:32525257, DDX58||Intron 1:1065, PBMC; 9:32525259, DDX58||Intron 1:1063, PBMC; 9:32525263, DDX58||Intron 1:1059, PBMC; 9:32525291, DDX58||Intron 1:1031, PBMC; 9:32525295, DDX58||Intron 1:1027, PBMC; 9:32525315, DDX58||Intron 1:1007, Bcell,Monocyte,Tcell,Whole Blood; 9:32525331, DDX58||Intron 1:991, PBMC; 9:32525357, DDX58||Intron 1:965, PBMC; 9:32525369, DDX58||Intron 1:953, PBMC; 9:32525373, DDX58||Intron 1:949, PBMC; 9:32525382, DDX58||Intron 1:940, PBMC; 9:33749216, PRSS3||Proximal Promoter:-1247|Proximal

Promoter:-1602, Whole Blood; 9:35162499, UNC13B||Intron 1:511, PBMC,Tcell; 9:36249297, GNE||Exon 2:Intron 1:27756|Exon 2:Intron 1:9199, Monocyte; 9:68377422, PBMC; 9:71627524, PRKACG||Exon 1:1515, Whole Blood; 9:72899321, SMC5||Intron 7:25444, Monocyte; 9:79791169, LOC100286938||3' Proximal Enhancer:1664, VPS13A||Proximal Promoter:-1191, PBMC,Tcell; 9:88355164, AGTPBP1||Intron 1:1780, Monocyte; 9:93925376, Monocyte; 9:98115754, Tcell; 9:99145525, SLC35D2||Proximal Promoter:467, ZNF367||3' Proximal Enhancer:35144, PBMC; X:101380608, TCEAL2||Proximal Promoter:-51, PBMC; X:103359594, LOC286437||3' Proximal Enhancer:9723, MCART6||Intron 1:42114, ZCCHC18||Exon 3:Intron 3:2488, Bcell; X:106045287, RNF128||3' Proximal Enhancer:108220|3' Proximal Enhancer:75394, TBC1D8B||Proximal Promoter:-631, PBMC; X:107070410, MID2||Intron 1:1327, Tcell; X:107287404, VSIG1||Proximal Promoter:-795, PBMC; X:107979700, IRS4||Proximal Promoter:-93, PBMC; X:110187555, PAK3||Proximal Promoter:43, PBMC; X:110339051, PAK3||Intron 1:Intron 2:151539|Proximal Promoter:-323, PBMC; X:112084792, PBMC; X:113817409, HTR2C||Proximal Promoter:-1141, PBMC; X:114468879, PBMC; X:11476834, Tcell; X:117250943, KLHL13||Proximal Promoter:-115|Proximal Promoter:360, PBMC; X:117957616, ZCCHC12||Proximal Promoter:-170, PBMC; X:118370187, PGRMC1||Proximal Promoter:-23, PBMC; X:118708113, CXorf56||5' Proximal Enhancer:-8716|5' Proximal Enhancer:-8741, UBE2A||5' Proximal Enhancer:-6184|Proximal Promoter:-385, PBMC; X:119134082, PBMC; X:120181504, GLUD2||Proximal Promoter:43, PBMC; X:122319974, GRIA3||Intron 2:1879, Whole Blood; X:128872153, XPNPEP2||Proximal Promoter:-792, Tcell; X:129473599, SLC25A14||Proximal Promoter:-447, PBMC; X:131157622, MST4||Proximal Promoter:-13|Proximal Promoter:378, PBMC; X:134138364, PBMC; X:134186273, FAM127B||Proximal Promoter:-52, PBMC; X:135863688, ARHGEF6||Proximal Promoter:-185, PBMC; X:13587976, EGFL6||Proximal Promoter:283, PBMC; X:136114207, GPR101||Proximal Promoter:-374, PBMC; X:136506825, PBMC; X:13956166, GPM6B||Intron 1:665, PBMC; X:142723114, SLITRK4||Intron 1:812|Proximal Promoter:-795|Proximal Promoter:-95, PBMC; X:144899412, CXorf1||5' Proximal Enhancer:-9515, SLITRK2||Distal Promoter:-3453|Proximal Promoter:66, PBMC; X:144899415, CXorf1||5' Proximal Enhancer:-9512, SLITRK2||Distal Promoter:-3450|Proximal Promoter:69, PBMC; X:146340534, MIR509-1||, MIR509-2||, MIR509-3||3' Proximal Enhancer:1599|3' Proximal Enhancer:710|Proximal Promoter:-176, MIR514B||5' Proximal Enhancer:-8786, Whole Blood; X:152599662, ZNF275||Proximal Promoter:50, PBMC; X:152906667, DUSP9||Proximal Promoter:-1229, PBMC; X:153059963, IDH3G||Proximal Promoter:4, PDZD4||3' Proximal Enhancer:36040, SRPK3||3' Proximal Enhancer:13508, SSR4||Proximal Promoter:-55|Proximal Promoter:334|Proximal Promoter:60, PBMC; X:153060166, IDH3G||Proximal Promoter:-199, PDZD4||3' Proximal Enhancer:35837, SRPK3||3' Proximal Enhancer:13711, SSR4||Exon 2:537|Proximal Promoter:148|Proximal Promoter:263, PBMC; X:153363472, MECP2||Proximal Promoter:-284, PBMC; X:153775441, G6PD||Proximal Promoter:-208|Proximal Promoter:346, IKBKG||Intron 1:4983|Proximal Promoter:-120|Proximal Promoter:-620, PBMC; X:15756052, CA5B||Proximal Promoter:-359, PBMC; X:16964743, REPS2||Proximal Promoter:-70, PBMC; X:18444359, CDKL5||Intron 1:635, PBMC; X:19002442, GPR64||3' Proximal Enhancer:138313, PHKA2||Proximal Promoter:38, PBMC; X:19002482, GPR64||3' Proximal Enhancer:138273, PHKA2||Proximal Promoter:-2, PBMC; X:19002582, GPR64||3' Proximal Enhancer:138173, PHKA2||Proximal Promoter:-102, PBMC; X:19140934, GPR64||Proximal Promoter:-179, PBMC; X:19362102, PDHA1||Proximal Promoter:92, PBMC; X:20009138, LOC729609||Proximal Promoter:-1241, PBMC; X:20135311, EIF1AX||3' Proximal Enhancer:24655, Whole Blood; X:23351405, PTCHD1||Proximal Promoter:-1579, PBMC; X:23352355, PTCHD1||Proximal Promoter:-629, Whole Blood; X:23925777, APOO||Proximal Promoter:280, CXorf58||Proximal Promoter:-345, PBMC; X:25029872, ARX||Intron 2:4193, Whole Blood; X:25031338, ARX||Exon 2:2727, PBMC; X:30327778, NR0B1||Proximal Promoter:-283, PBMC; X:3264432, MXRA5||Proximal Promoter:252, PBMC; X:37208602, PRRG1||Proximal Promoter:20|Proximal Promoter:75, PBMC; X:37208607, PRRG1||Proximal Promoter:25|Proximal Promoter:80, PBMC; X:37892347, SYTL5||Intron 1:Intron 2:26513|Proximal Promoter:-439, PBMC; X:39548680, Whole Blood; X:39767775, Tcell; X:40013727, BCOR||Intron 1:22855, PBMC; X:40016611, BCOR||Intron 1:19971, Whole Blood; X:40017883, BCOR||Intron 1:18699, PBMC; X:40028998, BCOR||Intron 1:7584, PBMC; X:40031550, BCOR||Intron 1:5032, PBMC; X:40034881, BCOR||Intron 1:1701, PBMC; X:41135246, Monocyte,PBMC; X:47004146, NDUFB11||Proximal Promoter:463, RBM10||Proximal Promoter:-470, PBMC; X:47050480, RBM10||3' Proximal Enhancer:45864, UBA1||Distal Promoter:-2720|Proximal Promoter:282, Whole Blood; X:47082293, CDK16||Intron 1:4218|Intron 1:4766|Proximal Promoter:-123, PBMC; X:47092529, CDK16||3' Proximal Enhancer:10113|3' Proximal Enhancer:14454|3' Proximal Enhancer:15002, USP11||Proximal Promoter:216, Whole Blood; X:47092993, CDK16||3' Proximal Enhancer:10577|3' Proximal Enhancer:14918|3' Proximal Enhancer:15466, USP11||Intron 1:680, Whole Blood; X:47420453, ARAF||Proximal Promoter:-62, PBMC; X:48367223, PORCN||Proximal Promoter:-147|Proximal

Promoter:-948, PBMC; X:48370301, EBP||5' Proximal Enhancer:-9862, PORCN||Exon 3:2130|Exon 4:2931, Tcell; X:48815643, KCND1||3' Proximal Enhancer:12608, OTUD5||Proximal Promoter:-750|Proximal Promoter:5, PBMC; X:48916091, CCDC120||Proximal Promoter:-424|Proximal Promoter:-431, PBMC; X:49029104, MAGIX||3' Proximal Enhancer:8835|3' Proximal Enhancer:9924, PLP2||Intron 1:921, PRICKLE3||3' Proximal Enhancer:13672, PBMC; X:49043021, PRICKLE3||Proximal Promoter:-245, SYP||3' Proximal Enhancer:13640, PBMC; X:49060744, CACNA1F||3' Proximal Enhancer:29089, SYP||Distal Promoter:-4083, PBMC; X:49166345, GAGE10||Intron 3:6221, PBMC; X:53030043, FAM156A||5' Proximal Enhancer:-5392, PBMC; X:53123428, TSPYL2||3' Proximal Enhancer:11887, PBMC; X:53349902, PBMC; X:53350144, PBMC; X:55026360, ALAS2||3' Proximal Enhancer:31137, APEX2||Proximal Promoter:-419, PFKFB1||5' Proximal Enhancer:-5849, PBMC; X:56590097, UBQLN2||Proximal Promoter:72, PBMC; X:63446044, ASB12||Intron 1:4467, PBMC; X:64254240, ZC4H2||Proximal Promoter:384, PBMC; X:64627254, PBMC; X:64627572, PBMC; X:64888437, MSN||Intron 1:927, PBMC; X:74376046, ABCB7||Proximal Promoter:86, PBMC; X:77395279, TAF9B||Proximal Promoter:-100, PBMC; X:77914115, ZCCHC5||Exon 2:710, PBMC; X:78010565, LPAR4||Exon 2:7360, Monocyte; X:85403636, DACH2||Proximal Promoter:182, PBMC; X:90690118, PABPC5||Intron 1:522, Whole Blood; X:95940170, DIAPH2||Exon 1:509, PBMC;

Table 3A

Data are listed as "DML, optional associated gene||position relative to optional gene:distance of DML from transcription start site in bases (multiple positions delimited by |), cell population(s) of origin;"

DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

10:102496915, PAX2||5' Proximal Enhancer:-8552, PBMC; 10:112837537, ADRA2A||Exon 1:748, PBMC; 10:124320064, DMBT1||Proximal Promoter:-116, PBMC; 10:50818299, CHAT||Distal Promoter:-3783|Distal Promoter:-2854|Intron 1:1159, PBMC; 10:54074788, DKK1||Exon 2:748, PBMC; 10:64578919, EGR2||Distal Promoter:-2793|Proximal Promoter:8, PBMC; 10:79622515, DLG5||Intron 2:63833, PBMC; 10:91153143, IFIT1||Intron 1:822, PBMC; 10:92689909, ANKRD1||5' Proximal Enhancer:-8877, PBMC; 11:102651208, MMP1||3' Proximal Enhancer:17758, PBMC; 11:124628888, VSIG2||5' Proximal Enhancer:-6779, PBMC; 11:312518, IFITM1||Proximal Promoter:-1472, PBMC; 11:312560, IFITM1||Proximal Promoter:-1430, PBMC; 11:312841, IFITM1||Proximal Promoter:-1149, PBMC; 11:313267, IFITM1||Proximal Promoter:-723, PBMC; 11:313478, IFITM1||Proximal Promoter:-512, PBMC; 11:313527, IFITM1||Proximal Promoter:-463, PBMC; 11:313624, IFITM1||Proximal Promoter:-366, PBMC; 11:315102, IFITM1||Exon 2:1112, PBMC; 11:315262, IFITM1||Exon 2:1272, PBMC; 11:319555, IFITM1||3' Proximal Enhancer:5565, PBMC; 11:319667, IFITM1||3' Proximal Enhancer:5677, PBMC; 11:319718, IFITM1||3' Proximal Enhancer:5728, PBMC; 11:320836, IFITM1||3' Proximal Enhancer:6846, PBMC; 11:320840, IFITM1||3' Proximal Enhancer:6850, PBMC; 11:320956, IFITM1||3' Proximal Enhancer:6966, PBMC; 11:3663198, ART1||Distal Promoter:-3162, PBMC; 11:60772559, CD6||Intron 1:33447, PBMC; 11:614761, CDHR5||3' Proximal Enhancer:10306, PBMC; 11:628628, CDHR5||Distal Promoter:-3561, PBMC; 11:64949878, CAPN1||Intron 1:575|Intron 1:729|Intron 1:1193, PBMC; 11:64980819, CAPN1||3' Proximal Enhancer:31516|3' Proximal Enhancer:31670|3' Proximal Enhancer:32134, PBMC; 11:65409760, SIPA1||Exon 3:2169|Exon 3:4183, PBMC; 11:67207498, PTPRCAP||Proximal Promoter:-2345, PBMC; 11:67207574, PTPRCAP||Proximal Promoter:-2421, PBMC; 11:67207599, PTPRCAP||Proximal Promoter:-2446, PBMC; 11:67761514, UNC93B1||Intron 9:10079, PBMC; 11:75052065, ARRB1||Intron 1:10810, PBMC; 12:10465272, KLRD1||Intron 4:4856|Intron 5:8223, PBMC; 12:10525233, KLRK1||Exon 8:17420, PBMC; 12:10545083, KLRK1||Proximal Promoter:-2430, PBMC; 12:117299348, HRK||Intron 1:19884, PBMC; 12:117798954, NOS1||Intron 1:653, PBMC; 12:6896105, LAG3||3' Proximal Enhancer:14436, PBMC; 12:7948517, NANOG||Exon 4:6523, PBMC; 13:28549574, CDX2||5' Proximal Enhancer:-6257, PBMC; 13:28552610, CDX2||5' Proximal Enhancer:-9293, PBMC; 13:41590153, ELF1||Intron 1:3355, PBMC; 13:43563347, EPSTI1||Intron 1:3030, PBMC; 13:43565901, EPSTI1||Proximal Promoter:476, PBMC; 14:61946358, PRKCH||Intron 9:157844, PBMC; 14:76448011,

TGFB3||Proximal Promoter:81, PBMC; 14:96670634, BDKRB2||Proximal Promoter:-500, PBMC; 15:101777761, CHSY1||Intron 1:14376, PBMC; 15:101784653, CHSY1||Intron 1:7484, PBMC; 15:25093366, SNRPN||5' Proximal Enhancer:-8331|Intron 2:24573, PBMC; 15:25123381, SNRPN||Intron 1:21684|Intron 2:54588, PBMC; 15:41803592, LTK||Intron 6:2493, PBMC; 15:67396487, SMAD3||Intron 1:38293, PBMC; 16:24850292, SLC5A11||5' Proximal Enhancer:-7259, PBMC; 16:57023022, CETP||3' Proximal Enhancer:27188, PBMC; 16:84627507, COTL1||Intron 2:24162, PBMC; 17:17626019, RAI1||Intron 1:41233, PBMC; 17:17644344, RAI1||Intron 2:59558, PBMC; 17:38077870, ORMDL3||Exon 4:6014, PBMC; 17:43978533, MAPT||Intron 1:6786, PBMC; 17:7517217, SHBG||Proximal Promoter:-164, PBMC; 18:46461399, SMAD7||Intron 1:7778|Intron 3:14304|Intron 3:15682, PBMC; 18:77278806, NFATC1||Intron 9:118481|Intron 9:123035, PBMC; 18:77280171, NFATC1||Intron 9:119846|Intron 9:124400, PBMC; 18:77283493, NFATC1||Intron 9:123168|Intron 9:127722, PBMC; 19:1064938, ABCA7||Exon 46:24837, PBMC; 19:35819775, CD22||Proximal Promoter:-296, PBMC; 19:35819889, CD22||Proximal Promoter:-182, PBMC; 19:3798367, MATK||Intron 1:3443, PBMC; 19:39225147, ACTN4||3' Proximal Enhancer:86881, PBMC; 19:39737768, IL28B||Proximal Promoter:-2157, PBMC; 19:39737804, IL28B||Proximal Promoter:-2193, PBMC; 19:39737861, IL28B||Proximal Promoter:-2250, PBMC; 19:39755901, IL28A||Distal Promoter:-3255, PBMC; 19:40904691, PRX||Exon 6:14580, PBMC; 19:40904974, PRX||Intron 5:14297, PBMC; 19:49843922, CD37||3' Proximal Enhancer:5246, PBMC; 19:50393653, IL4I1||Exon 8:6494|Exon 10:39109, PBMC; 19:52223099, HAS1||Exon 2:4122, PBMC; 19:54598010, OSCAR||Exon 6:6138, PBMC; 19:7980718, MAP2K7||3' Proximal Enhancer:11954, PBMC; 1:114300656, RSBN1||3' Proximal Enhancer:54414, PBMC; 1:12120304, TNFRSF8||Distal Promoter:-3129, PBMC; 1:150703141, CTSS||Exon 8:35292, PBMC; 1:152595629, LCE3B||3' Proximal Enhancer:9343, PBMC; 1:152596413, LCE3B||3' Proximal Enhancer:10127, PBMC; 1:153514442, S100A6||5' Proximal Enhancer:-5725, PBMC; 1:154127952, TPM3||Exon 8:27773|3' Proximal Enhancer:36657, PBMC; 1:169671116, SELL||Intron 4:6881|Intron 6:9727, PBMC; 1:204043642, SOX13||Intron 1:1397, PBMC; 1:204465584, PIK3C2B||5' Proximal Enhancer:-6110, PBMC; 1:236226181, NID1||Intron 1:2300, PBMC; 1:236227686, NID1||Intron 1:795, PBMC; 1:2537838, MMEL1||Intron 7:26643, PBMC; 1:43389028, SLC2A1||3' Proximal Enhancer:35819, PBMC; 1:65428216, JAK1||Intron 1:3971, PBMC; 1:79085250, IFI44L||Proximal Promoter:-837, PBMC; 1:79085586, IFI44L||Proximal Promoter:-501, PBMC; 1:79085713, IFI44L||Proximal Promoter:-374, PBMC; 1:79085765, IFI44L||Proximal Promoter:-322, PBMC; 1:79088769, IFI44L||Intron 1:2682, PBMC; 1:79118191, IFI44L||3' Proximal Enhancer:32104, PBMC; 1:89523325, GBP1||Intron 6:7718, PBMC; 1:92350112, TGFBR3||Intron 1:1724|Intron 2:21447, PBMC; 1:92352293, TGFBR3||Proximal Promoter:-457|Intron 2:19266, PBMC; 1:92352407, TGFBR3||Proximal Promoter:-571|Intron 2:19152, PBMC; 1:92352481, TGFBR3||Proximal Promoter:-645|Intron 2:19078, PBMC; 20:1600641, SIRPG||3' Proximal Enhancer:37784, PBMC; 20:3189437, ITPA||Proximal Promoter:-618, PBMC; 20:56247302, PMEPA1||Intron 1:18378|Intron 1:37729|Intron 1:38368|Intron 1:39290, PBMC; 20:61878356, BIRC7||3' Proximal Enhancer:11081, PBMC; 21:40033163, ERG||Proximal Promoter:-572|Proximal Promoter:455|Intron 1:541, PBMC; 21:42797588, MX1||Proximal Promoter:-514|Proximal Promoter:-389|Intron 3:5069, PBMC; 21:42797847, MX1||Proximal Promoter:-255|Proximal Promoter:-130|Intron 3:5328, PBMC; 21:42799141, MX1||Intron 1:1039|Exon 2:1164|Exon 4:6622, PBMC; 21:46341067, ITGB2||Proximal Promoter:-102|Intron 1:7686, PBMC; 21:46341380, ITGB2||Proximal Promoter:-415|Intron 1:7373, PBMC; 21:46341389, ITGB2||Proximal Promoter:-424|Intron 1:7364, PBMC; 21:46349496, ITGB2||5' Proximal Enhancer:-8531|Proximal Promoter:-743, PBMC; 21:46890907, COL18A1||Intron 2:15484, PBMC; 21:46890997, COL18A1||Intron 2:15574, PBMC; 2:127822551, BIN1||Intron 7:42352, PBMC; 2:29751968, ALK||Intron 4:392509, PBMC; 2:37383568, EIF2AK2||5' Proximal Enhancer:-8603|Intron 1:622, PBMC; 2:37384708, EIF2AK2||5' Proximal Enhancer:-9743|Proximal Promoter:-518, PBMC; 2:71124470, VAX2||Distal Promoter:-3249, PBMC; 2:71162762, VAX2||3' Proximal Enhancer:35043, PBMC; 3:11330567, ATG7||Intron 1:16558, PBMC; 3:119187570, TMEM39A||5' Proximal Enhancer:-5099, PBMC; 3:146260954, PLSCR1||Intron 1:1674, PBMC; 3:187455371, BCL6||Distal Promoter:-2676|Proximal Promoter:-1086|Intron 1:8142, PBMC; 3:193859889, HES1||3' Proximal Enhancer:5959, PBMC; 3:195489708, MUC4||Intron 13:49136, PBMC; 3:30638618, TGFBR2||5' Proximal Enhancer:-9375, PBMC; 4:10020882, SLC2A9||Intron 1:2232|Intron 2:20990, PBMC; 4:57371607, SRP72||3' Proximal Enhancer:37846, PBMC; 5:106878353, EFNA5||Intron 1:128243, PBMC; 5:131604900, PDLIM4||Intron 3:11550, PBMC; 5:139485902, PURA||5' Proximal Enhancer:-7805, PBMC; 5:150226252, IRGM||Proximal Promoter:168, PBMC; 5:49736085, EMB||Intron 1:1149, PBMC; 6:136872115, MAP3K5||3' Proximal Enhancer:241541, PBMC; 6:137105249, MAP3K5||Intron 1:8407, PBMC; 6:152012887, ESR1||Intron 1:1257, PBMC; 6:152085619, ESR1||Intron 2:73989, PBMC; 6:152085641, ESR1||Intron 2:74011, PBMC; 6:160207898, TCP1||Intron 3:2837, PBMC; 6:170605493, DLL1||5' Proximal Enhancer:-5796, PBMC; 6:2892148, SERPINB9||Exon 6:11397, PBMC;

6:2892150, SERPINB9||Exon 6:11395, PBMC; 6:29648345, ZFP57||Distal Promoter:-3414, PBMC; 6:29648348, ZFP57||Distal Promoter:-3417, PBMC; 6:29648379, ZFP57||Distal Promoter:-3448, PBMC; 6:29648400, ZFP57||Distal Promoter:-3469, PBMC; 6:29648507, ZFP57||Distal Promoter:-3576, PBMC; 6:29648590, ZFP57||Distal Promoter:-3659, PBMC; 6:29648628, ZFP57||Distal Promoter:-3697, PBMC; 6:29648756, ZFP57||Distal Promoter:-3825, PBMC; 6:29856426, HLA-H||Exon 3:1044, PBMC; 6:29906977, HLA-A||Distal Promoter:-3269, PBMC; 6:29908976, HLA-A||Proximal Promoter:-1270, PBMC; 6:29910796, HLA-A||Exon 2:550, PBMC; 6:29911295, HLA-A||Exon 3:1049, PBMC; 6:29911550, HLA-A||Intron 3:1304, PBMC; 6:29911558, HLA-A||Intron 3:1312, PBMC; 6:29912713, HLA-A||Intron 5:2467, PBMC; 6:29913343, HLA-A||Exon 8:3097, PBMC; 6:30703704, IER3||3' Proximal Enhancer:8623, PBMC; 6:30720311, IER3||5' Proximal Enhancer:-7984, PBMC; 6:31548340, LST1||5' Proximal Enhancer:-6636|5' Proximal Enhancer:-6135|5' Proximal Enhancer:-5615, PBMC; 6:31550612, LST1||Distal Promoter:-4364|Distal Promoter:-3863|Distal Promoter:-3343, PBMC; 6:32064783, TNXB||Exon 3:12368, PBMC; 6:32064837, TNXB||Exon 3:12314, PBMC; 6:32066446, TNXB||Intron 1:10705, PBMC; 6:32116016, PPT2||5' Proximal Enhancer:-5212, PBMC; 6:32156527, NOTCH4||3' Proximal Enhancer:35317, PBMC; 6:32362638, BTNL2||Exon 6:12262, PBMC; 6:32370815, BTNL2||Exon 3:4085, PBMC; 6:32370879, BTNL2||Exon 3:4021, PBMC; 6:32805692, PSMB8||3' Proximal Enhancer:6124|3' Proximal Enhancer:7020, PBMC; 6:32820355, PSMB8||5' Proximal Enhancer:-8539|5' Proximal Enhancer:-7643, PBMC; 6:33033484, HLA-DPA1||Intron 4:7970|Intron 5:15071, PBMC; 6:33040535, HLA-DPA1||Intron 1:919|Intron 2:8020, PBMC; 6:41302256, NCR2||Proximal Promoter:-1271, PBMC; 7:104865796, SRPK2||Intron 1:43681|Intron 2:163545, PBMC; 7:157362062, PTPRN2||Intron 20:1018420, PBMC; 7:2760784, GNA12||3' Proximal Enhancer:123175, PBMC; 7:2765455, GNA12||3' Proximal Enhancer:118504, PBMC; 7:3020536, CARD11||Intron 1:62973, PBMC; 7:45960367, IGFBP3||Exon 1:504, PBMC; 7:76967860, PION||Intron 19:77857, PBMC; 7:95025829, PON2||3' Proximal Enhancer:38555, PBMC; 7:95025855, PON2||3' Proximal Enhancer:38529, PBMC; 8:103675497, KLF10||5' Proximal Enhancer:-9329|5' Proximal Enhancer:-7514, PBMC; 8:11601603, GATA4||Intron 2:39887, PBMC; 8:144097644, LY6E||Proximal Promoter:-2257, PBMC; 8:144098888, LY6E||Proximal Promoter:-1013, PBMC; 8:144099482, LY6E||Proximal Promoter:-419, PBMC; 8:144102584, LY6E||Intron 2:2683, PBMC; 8:27164804, PTK2B||Distal Promoter:-4194, PBMC; 8:31497464, NRG1||Proximal Promoter:197, PBMC; 8:32504919, NRG1||Exon 1:669|Intron 4:51576|Intron 5:99192|Intron 3:1007652, PBMC; 8:32579253, NRG1||Proximal Promoter:-97|Intron 1:75003|Intron 4:125910|Intron 5:173526|Intron 3:1081986, PBMC; 8:38323059, FGFR1||Intron 1:2304|Intron 1:3293, PBMC; 8:60029914, TOX||Intron 1:1853, PBMC; 8:66751182, PDE7A||Intron 1:2787, PBMC; 8:90986930, NBN||Intron 5:9969, PBMC; 9:138458521, PAEP||Exon 7:4918, PBMC; 9:18514052, ADAMTSL1||Intron 2:39974, PBMC; 9:32525315, DDX58||Intron 1:1007, PBMC; 9:91997686, SEMA4D||Intron 15:96925, PBMC; X:107681482, COL4A5||Proximal Promoter:-1591, PBMC; X:107682877, COL4A5||Proximal Promoter:-196, PBMC; X:70316667, FOXO4||Intron 1:669, PBMC;

Table 3B

Data are listed as "DML, optional associated gene||position relative to optional gene:distance of DML from transcription start site in bases (multiple positions delimited by |), cell population(s) of origin;"

DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

10:100174853, HPS1||3' Proximal Enhancer:31851, PBMC; 10:101297605, NKX2-3||3' Proximal Enhancer:4916, Tcell; 10:112263831, DUSP5||Intron 2:6207, Tcell; 10:63683346, ARID5B||Intron 2:22334, Tcell; 10:98009748, BLNK||Intron 1:21585, Monocyte; 11:1297087, TOLLIP||Exon 6:33805, PBMC; 11:1329962, TOLLIP||Intron 1:930, Monocyte; 11:1892038, LSP1||Proximal Promoter:-115|Proximal Promoter:-60|Intron 1:2136|Intron 2:5644, Tcell; 11:1892043, LSP1||Proximal Promoter:-110|Proximal Promoter:-55|Intron 1:2141|Intron 2:5649, Tcell; 11:312518, IFITM1||Proximal Promoter:-1472, Bcell,Monocyte,Tcell; 11:312560, IFITM1||Proximal Promoter:-1430, Bcell,Monocyte,Tcell; 11:312841, IFITM1||Proximal Promoter:-1149, Bcell,Tcell; 11:313120, IFITM1||Proximal Promoter:-870,

Bcell,Monocyte,PBMC,Tcell,Whole Blood; 11:313267, IFITM1||Proximal Promoter:-723, Bcell,Monocyte,Tcell,Whole Blood; 11:313354, IFITM1||Proximal Promoter:-636, Bcell,Monocyte,PBMC,Tcell; 11:313408, IFITM1||Proximal Promoter:-582, PBMC; 11:313478, IFITM1||Proximal Promoter:-512, Monocyte,Tcell,Whole Blood; 11:313527, IFITM1||Proximal Promoter:-463, Bcell,Monocyte,Tcell; 11:313624, IFITM1||Proximal Promoter:-366, Bcell,Monocyte,Tcell,Whole Blood; 11:313681, IFITM1||Proximal Promoter:-309, PBMC; 11:313719, IFITM1||Proximal Promoter:-271, PBMC; 11:313755, IFITM1||Proximal Promoter:-235, PBMC; 11:314493, IFITM1||Intron 1:503, Monocyte; 11:314945, IFITM1||Exon 2:955, PBMC; 11:314948, IFITM1||Exon 2:958, PBMC; 11:314954, IFITM1||Exon 2:964, PBMC; 11:314978, IFITM1||Exon 2:988, PBMC; 11:315053, IFITM1||Exon 2:1063, PBMC; 11:315102, IFITM1||Exon 2:1112, Bcell,Monocyte,Tcell,Whole Blood; 11:315118, IFITM1||Exon 2:1128, Bcell,Monocyte,PBMC,Tcell; 11:315168, IFITM1||Exon 2:1178, PBMC; 11:315262, IFITM1||Exon 2:1272, Bcell,Monocyte,Tcell,Whole Blood; 11:315318, IFITM1||3' Proximal Enhancer:1328, PBMC; 11:315751, IFITM1||3' Proximal Enhancer:1761, Bcell,Monocyte,PBMC,Tcell; 11:315908, IFITM1||3' Proximal Enhancer:1918, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 11:316088, IFITM1||3' Proximal Enhancer:2098, Bcell,Tcell; 11:316247, IFITM1||3' Proximal Enhancer:2257, Tcell,Whole Blood; 11:316339, IFITM1||3' Proximal Enhancer:2349, Monocyte,PBMC,Tcell,Whole Blood; 11:316456, IFITM1||3' Proximal Enhancer:2466, Monocyte,PBMC,Tcell,Whole Blood; 11:317767, IFITM1||3' Proximal Enhancer:3777, PBMC,Tcell; 11:319555, IFITM1||3' Proximal Enhancer:5565, Bcell,Monocyte,Whole Blood; 11:319628, IFITM1||3' Proximal Enhancer:5638, PBMC; 11:319633, IFITM1||3' Proximal Enhancer:5643, PBMC; 11:319667, IFITM1||3' Proximal Enhancer:5677, Monocyte,Whole Blood; 11:319686, IFITM1||3' Proximal Enhancer:5696, PBMC; 11:319718, IFITM1||3' Proximal Enhancer:5728, Bcell,Monocyte,Whole Blood; 11:319748, IFITM1||3' Proximal Enhancer:5758, PBMC; 11:319754, IFITM1||3' Proximal Enhancer:5764, PBMC; 11:319765, IFITM1||3' Proximal Enhancer:5775, PBMC; 11:319786, IFITM1||3' Proximal Enhancer:5796, PBMC; 11:60738995, CD6||Proximal Promoter:-117, Tcell; 11:608381, CDHR5||3' Proximal Enhancer:16686, PBMC; 11:611390, CDHR5||3' Proximal Enhancer:13677, PBMC; 11:611791, CDHR5||3' Proximal Enhancer:13276, Monocyte,Tcell; 11:612837, CDHR5||3' Proximal Enhancer:12230, Monocyte; 11:613632, CDHR5||3' Proximal Enhancer:11435, PBMC; 11:613792, CDHR5||3' Proximal Enhancer:11275, Monocyte,PBMC,Tcell,Whole Blood; 11:614761, CDHR5||3' Proximal Enhancer:10306, Bcell,Monocyte,Tcell,Whole Blood; 11:614771, CDHR5||3' Proximal Enhancer:10296, PBMC; 11:614784, CDHR5||3' Proximal Enhancer:10283, PBMC; 11:614787, CDHR5||3' Proximal Enhancer:10280, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 11:614790, CDHR5||3' Proximal Enhancer:10277, PBMC; 11:614799, CDHR5||3' Proximal Enhancer:10268, PBMC; 11:614814, CDHR5||3' Proximal Enhancer:10253, PBMC; 11:614822, CDHR5||3' Proximal Enhancer:10245, PBMC; 11:614824, CDHR5||3' Proximal Enhancer:10243, PBMC; 11:614837, CDHR5||3' Proximal Enhancer:10230, PBMC; 11:614842, CDHR5||3' Proximal Enhancer:10225, PBMC; 11:614846, CDHR5||3' Proximal Enhancer:10221, PBMC; 11:614855, CDHR5||3' Proximal Enhancer:10212, PBMC; 11:614865, CDHR5||3' Proximal Enhancer:10202, PBMC; 11:614875, CDHR5||3' Proximal Enhancer:10192, PBMC; 11:614880, CDHR5||3' Proximal Enhancer:10187, PBMC; 11:614883, CDHR5||3' Proximal Enhancer:10184, PBMC; 11:614885, CDHR5||3' Proximal Enhancer:10182, PBMC; 11:614892, CDHR5||3' Proximal Enhancer:10175, PBMC; 11:614899, CDHR5||3' Proximal Enhancer:10168, PBMC; 11:614904, CDHR5||3' Proximal Enhancer:10163, PBMC; 11:614923, CDHR5||3' Proximal Enhancer:10144, PBMC; 11:614926, CDHR5||3' Proximal Enhancer:10141, PBMC; 11:614928, CDHR5||3' Proximal Enhancer:10139, PBMC; 11:614933, CDHR5||3' Proximal Enhancer:10134, PBMC; 11:614947, CDHR5||3' Proximal Enhancer:10120, PBMC; 11:614954, CDHR5||3' Proximal Enhancer:10113, PBMC; 11:62308810, AHNAK||Intron 1:5522, Monocyte; 11:63655087, MARK2||Proximal Promoter:-899|Intron 1:48688, PBMC,Tcell; 11:63683019, MARK2||3' Proximal Enhancer:27033|3' Proximal Enhancer:76620, Whole Blood; 11:63767176, OTUB1||3' Proximal Enhancer:13852, PBMC; 11:63768412, OTUB1||3' Proximal Enhancer:15088, PBMC; 11:64980819, CAPN1||3' Proximal Enhancer:31516|3' Proximal Enhancer:31670|3' Proximal Enhancer:32134, Tcell; 11:66443874, RBM4||3' Proximal Enhancer:37787, PBMC; 11:67170610, TBC1D10C||Proximal Promoter:-801, Monocyte; 11:67174843, TBC1D10C||Intron 8:3432, Tcell; 11:67182672, TBC1D10C||3' Proximal Enhancer:11261, PBMC; 11:67761385, UNC93B1||Intron 9:10208, Monocyte,PBMC; 11:67761514, UNC93B1||Intron 9:10079, Monocyte,Tcell; 12:102874286, IGF1||Proximal Promoter:-1857|Proximal Promoter:92, Tcell; 12:10455788, KLRD1||Distal Promoter:-4628|Proximal Promoter:-1261, Tcell; 12:113375880, OAS3||Proximal Promoter:-368, Monocyte,Whole Blood; 12:113375896, OAS3||Proximal Promoter:-352, Monocyte,Tcell; 12:113376681, OAS3||Proximal Promoter:433, Tcell; 12:113415883, OAS3||3' Proximal Enhancer:39635, Monocyte,PBMC,Tcell,Whole Blood; 12:113415930, OAS3||3' Proximal Enhancer:39682, PBMC,Tcell; 12:12224457, BCL2L14||Proximal

Promoter:56|Intron 1:580, PBMC,Tcell; 12:12252249, BCL2L14||Exon 6:27848|Exon 6:28372, Tcell; 12:63211683, PPM1H||Intron 2:116982, Monocyte; 12:66742565, GRIP1||Exon 23:Exon 24:330360, Monocyte; 13:43469464, EPSTI1||Intron 10:Intron 9:96913, Tcell; 13:43545157, EPSTI1||Intron 1:21220, Tcell; 13:43563347, EPSTI1||Intron 1:3030, Bcell,Monocyte,Tcell; 13:43565901, EPSTI1||Proximal Promoter:476, Bcell,Monocyte,Tcell; 13:52582761, ATP7B||Intron 1:2869, Whole Blood; 13:74649286, KLF12||Intron 1:58780, Monocyte; 14:103367632, TRAF3||Intron 10:Intron 6:Intron 9:123817, PBMC; 14:104171259, XRCC3||Intron 5:Intron 6:10564, Monocyte; 14:104171313, XRCC3||Intron 5:Intron 6:10510, Monocyte; 14:104171840, XRCC3||Intron 5:Intron 6:9983, Monocyte; 14:104171944, XRCC3||Intron 5:Intron 6:9879, Monocyte; 14:24642317, IRF9||3' Proximal Enhancer:11896, Tcell; 14:51290662, NIN||Intron 2:7177, Monocyte; 14:51290751, NIN||Intron 2:7088, Monocyte; 14:52780545, PTGER2||Proximal Promoter:-470, PBMC; 14:76443578, TGFB3||Intron 1:4514, Whole Blood; 14:81426012, TSHR||Intron 1:4144, Monocyte; 15:43809510, TP53BP1||5' Proximal Enhancer:-6803, Monocyte; 16:23850404, PRKCB||Intron 2:3105, Monocyte; 16:29678624, SPN||Exon 2:4045|Exon 2:4325, Monocyte; 16:31106788, VKORC1||Proximal Promoter:-512, PBMC; 16:66583078, TK2||Intron 1:1116|Intron 1:1237, Whole Blood; 16:66583081, TK2||Intron 1:1113|Intron 1:1234, Whole Blood; 16:67232460, E2F4||Exon 10:6393, Monocyte,PBMC; 16:88709302, CYBA||3' Proximal Enhancer:8155, Monocyte; 17:25958673, LGALS9||Proximal Promoter:500, Tcell; 17:25959847, LGALS9||Intron 1:1674, Tcell; 17:38077870, GSDMB||Distal Promoter:-4077|Distal Promoter:-2967, Tcell; 17:40128637, CNP||Exon 4:9879, Tcell; 17:40438312, STAT5B||5' Proximal Enhancer:-9888, Monocyte; 17:45927392, SP6||Intron 1:5848, Whole Blood; 17:4812443, CHRNE||5' Proximal Enhancer:-6074, PBMC,Tcell; 17:49031751, SPAG9||3' Proximal Enhancer:92578|3' Proximal Enhancer:166475, Bcell,Tcell; 17:54676595, NOG||3' Proximal Enhancer:5536, Monocyte; 17:72759282, NAT9||3' Proximal Enhancer:13188, PBMC; 17:72779428, NAT9||5' Proximal Enhancer:-6958, Monocyte; 18:46479416, SMAD7||Distal Promoter:-3713|Proximal Promoter:-2335, PBMC; 19:10519375, PDE4A||5' Proximal Enhancer:-8073, Monocyte; 19:17215602, MYO9B||Intron 2:29012, Tcell; 19:17284481, MYO9B||Intron 13:97891, Monocyte; 19:17514117, BST2||Exon 5:2267, Monocyte,PBMC; 19:17514600, BST2||Exon 4:1784, Bcell,Monocyte,PBMC,Tcell; 19:17516282, BST2||Proximal Promoter:102, PBMC,Tcell; 19:17516329, BST2||Proximal Promoter:55, PBMC,Tcell; 19:17516442, BST2||Proximal Promoter:-58, Tcell; 19:17516470, BST2||Proximal Promoter:-86, PBMC,Tcell; 19:17516712, BST2||Proximal Promoter:-328, PBMC; 19:17517008, BST2||Proximal Promoter:-624, PBMC,Tcell; 19:17517221, BST2||Proximal Promoter:-837, PBMC,Tcell; 19:18545062, ELL||3' Proximal Enhancer:87875, Monocyte,PBMC; 19:18545441, ELL||3' Proximal Enhancer:87496, Monocyte; 19:3783755, MATK||Intron 5:Intron 6:2660|Intron 6:18055, PBMC; 19:54876446, LAIR1||Proximal Promoter:275, PBMC,Tcell; 19:54876664, LAIR1||Proximal Promoter:57, PBMC; 1:12181213, TNFRSF8||Distal Promoter:-4744|Intron 8:57780, Tcell; 1:12188502, TNFRSF8||Intron 2:2545|Intron 12:65069, Tcell; 1:12188549, TNFRSF8||Intron 2:2592|Intron 12:65116, PBMC,Tcell; 1:12193099, TNFRSF8||Intron 2:7142|Intron 12:69666, PBMC; 1:153014310, SPRR1B||3' Proximal Enhancer:10632, Whole Blood; 1:156630119, NES||3' Proximal Enhancer:17070, Bcell; 1:161569954, FCGR2C||Exon 7:18826, Whole Blood; 1:161575716, FCGR2C||3' Proximal Enhancer:24588, Whole Blood; 1:174843754, RABGAP1L||Proximal Promoter:-901|Proximal Promoter:231|Intron 2:74720, Tcell; 1:174843909, RABGAP1L||Proximal Promoter:-746|Proximal Promoter:386|Intron 2:74875, Tcell; 1:174844397, RABGAP1L||Proximal Promoter:-258|Intron 1:874|Intron 2:75363, Bcell,Monocyte,PBMC,Tcell,Whole Blood; 1:174844490, RABGAP1L||Proximal Promoter:-165|Intron 1:967|Intron 2:75456, Bcell,Monocyte,Tcell,Whole Blood; 1:174844517, RABGAP1L||Proximal Promoter:-138|Intron 1:994|Intron 2:75483, PBMC; 1:174844547, RABGAP1L||Proximal Promoter:-108|Intron 1:1024|Intron 2:75513, PBMC; 1:174844560, RABGAP1L||Proximal Promoter:-95|Intron 1:1037|Intron 2:75526, PBMC; 1:204071770, SOX13||Intron 1:29525, Tcell; 1:206240661, AVPR1B||3' Proximal Enhancer:16379, Monocyte; 1:214813712, CENPF||Exon 12:37181, Tcell; 1:214834360, CENPF||Intron 19:57829, PBMC; 1:8919565, ENO1||3' Proximal Enhancer:12070|3' Proximal Enhancer:19586, PBMC; 1:92350430, TGFBR3||Intron 1:1406|Intron 2:21129, PBMC,Tcell; 20:61867154, BIRC7||Proximal Promoter:-121, PBMC; 20:61867178, BIRC7||Proximal Promoter:-97, PBMC; 2:100481106, AFF3||Intron 6:240939|Intron 6:277931, Monocyte; 2:237490808, CXCR7||Exon 2:12429, Monocyte; 2:25897613, DTNB||Proximal Promoter:-1110, Monocyte; 2:28112170, BRE||Proximal Promoter:-1386|Proximal Promoter:-1311, Monocyte; 2:37381088, EIF2AK2||5' Proximal Enhancer:-6123|Intron 1:3102, Monocyte,PBMC,Tcell; 2:37383568, EIF2AK2||5' Proximal Enhancer:-8603|Intron 1:622, Bcell,Tcell; 2:37383588, EIF2AK2||5' Proximal Enhancer:-8623|Intron 1:602, PBMC; 2:37383623, EIF2AK2||5' Proximal Enhancer:-8658|Intron 1:567, PBMC; 2:37383679, EIF2AK2||5' Proximal Enhancer:-8714|Intron 1:511, PBMC; 2:37383713, EIF2AK2||5' Proximal Enhancer:-8748|Proximal Promoter:477, PBMC; 2:37383730, EIF2AK2||5' Proximal

Enhancer:-8765|Proximal Promoter:460, PBMC; 2:37384523, EIF2AK2||5' Proximal Enhancer:-9558|Proximal Promoter:-333, PBMC,Tcell; 2:37384708, EIF2AK2||5' Proximal Enhancer:-9743|Proximal Promoter:-518, Bcell,Tcell; 2:62428082, B3GNT2||Intron 1:4821, Tcell; 2:62429249, B3GNT2||Intron 1:5988, Tcell; 2:62442007, B3GNT2||Intron 1:18746, Tcell; 3:105167621, ALCAM||Intron 1:82065, Monocyte; 3:136340367, STAG1||Intron 3:130878, Whole Blood; 3:142165032, ATR||3' Proximal Enhancer:132636, Bcell,PBMC,Tcell; 3:182883005, LAMP3||Proximal Promoter:-2338, Bcell; 3:187960622, LPP||Intron 1:17430|Intron 2:29902, Bcell; 3:188115336, LPP||Intron 2:172144|Intron 2:184616, Monocyte; 3:191048377, UTS2D||Proximal Promoter:-52, Tcell; 3:191048439, UTS2D||Proximal Promoter:-114, Tcell; 3:191048753, UTS2D||Proximal Promoter:-428, Tcell; 3:23244062, UBE2E2||Proximal Promoter:-721, PBMC; 3:23244068, UBE2E2||Proximal Promoter:-715, PBMC; 3:30647670, TGFBR2||Proximal Promoter:-323, Tcell; 3:30651317, TGFBR2||Intron 1:3324, Tcell; 3:30673459, TGFBR2||Intron 1:Intron 2:25466, Monocyte,Tcell; 3:42881414, CCBP2||Intron 2:30451, PBMC; 3:49394622, RHOA||3' Proximal Enhancer:54904, Monocyte; 3:98453086, ST3GAL6||Intron 1:1515, Tcell; 4:107236485, AIMP1||Proximal Promoter:-1178|Proximal Promoter:-367|Proximal Promoter:-281, Whole Blood; 4:157898799, PDGFC||5' Proximal Enhancer:-6253, Whole Blood; 4:3079751, HTT||Intron 1:3344, Monocyte; 4:39460490, LIAS||Proximal Promoter:-174, Whole Blood; 4:90816310, MMRN1||Proximal Promoter:259, PBMC,Tcell; 5:115178764, ATG12||Proximal Promoter:-1216, PBMC; 5:115178810, ATG12||Proximal Promoter:-1262, Monocyte; 5:121415023, LOX||Proximal Promoter:-2105|Proximal Promoter:-968, Whole Blood; 5:169695483, LCP2||Exon 8:29339, Tcell; 5:55219224, IL31RA||3' Proximal Enhancer:70075|3' Proximal Enhancer:72018, Tcell; 5:74798138, POLK||5' Proximal Enhancer:-9518, Whole Blood; 5:82845599, VCAN||Intron 10:Intron 8:Intron 9:78107, PBMC; 6:116674019, DSE||Intron 1:72737, Monocyte; 6:131908781, ARG1||3' Proximal Enhancer:14438, PBMC; 6:137094444, MAP3K5||Intron 1:19212, Monocyte; 6:139454928, HECA||Proximal Promoter:-1320, PBMC,Tcell; 6:170595947, DLL1||Intron 4:3750, Tcell; 6:17715219, NUP153||5' Proximal Enhancer:-8401, Tcell; 6:31123569, POU5F1||3' Proximal Enhancer:11046|3' Proximal Enhancer:14882, Whole Blood; 6:31143798, POU5F1||5' Proximal Enhancer:-9183|5' Proximal Enhancer:-5347, Whole Blood; 6:31550090, LST1||Distal Promoter:-4886|Distal Promoter:-4385|Distal Promoter:-3865, Tcell; 6:32119016, PPT2||Proximal Promoter:-2212, PBMC; 6:32119939, PPT2||Proximal Promoter:-1289, PBMC; 6:32120077, PPT2||Proximal Promoter:-1151, PBMC,Tcell; 6:32120203, PPT2||Proximal Promoter:-1025, PBMC,Tcell; 6:32154715, PBX2||Intron 6:3248, Monocyte; 6:32155124, PBX2||Exon 6:2839, Monocyte; 6:32155141, PBX2||Exon 6:2822, Monocyte; 6:32164503, PBX2||5' Proximal Enhancer:-6540, Tcell; 6:32728953, HLA-DQB2||Intron 2:2377, Whole Blood; 6:32803004, PSMB8||3' Proximal Enhancer:8812|3' Proximal Enhancer:9708, Tcell; 6:32803009, PSMB8||3' Proximal Enhancer:8807|3' Proximal Enhancer:9703, Tcell; 6:32803058, PSMB8||3' Proximal Enhancer:8758|3' Proximal Enhancer:9654, Tcell; 6:32803111, PSMB8||3' Proximal Enhancer:8705|3' Proximal Enhancer:9601, Tcell; 6:32803210, PSMB8||3' Proximal Enhancer:8606|3' Proximal Enhancer:9502, Tcell; 6:32805142, PSMB8||3' Proximal Enhancer:6674|3' Proximal Enhancer:7570, PBMC,Tcell; 6:32805398, PSMB8||3' Proximal Enhancer:6418|3' Proximal Enhancer:7314, PBMC; 6:32805548, PSMB8||3' Proximal Enhancer:6268|3' Proximal Enhancer:7164, Monocyte,PBMC; 6:32805554, PSMB8||3' Proximal Enhancer:6262|3' Proximal Enhancer:7158, PBMC,Tcell; 6:32805570, PSMB8||3' Proximal Enhancer:6246|3' Proximal Enhancer:7142, PBMC; 6:32808669, PSMB8||Exon 6:3147|Exon 6:4043, Tcell; 6:32808689, PSMB8||Exon 6:3127|Exon 6:4023, Tcell; 6:32808752, PSMB8||Exon 6:3064|Exon 6:3960, PBMC,Tcell; 6:32808918, PSMB8||Intron 5:2898|Intron 5:3794, PBMC,Tcell; 6:32810551, PSMB8||Exon 3:1265|Exon 3:2161, PBMC,Tcell; 6:32810706, PSMB8||Intron 2:1110|Intron 2:2006, PBMC,Tcell; 6:32810742, PSMB8||Exon 2:1074|Exon 2:1970, PBMC,Tcell; 6:32810833, PSMB8||Exon 2:983|Exon 2:1879, PBMC,Tcell; 6:32811251, PSMB8||Intron 1:565|Intron 1:1461, Bcell,Monocyte,PBMC,Whole Blood; 6:32811253, PSMB8||Intron 1:563|Intron 1:1459, Monocyte,PBMC; 6:32815091, PSMB8||Distal Promoter:-3275|Proximal Promoter:-2379, PBMC; 6:32815831, PSMB8||Distal Promoter:-4015|Distal Promoter:-3119, PBMC,Tcell; 6:32817847, PSMB8||5' Proximal Enhancer:-6031|5' Proximal Enhancer:-5135, Tcell; 6:32817977, PSMB8||5' Proximal Enhancer:-6161|5' Proximal Enhancer:-5265, PBMC,Tcell; 6:32818198, PSMB8||5' Proximal Enhancer:-6382|5' Proximal Enhancer:-5486, PBMC; 6:32818452, PSMB8||5' Proximal Enhancer:-6636|5' Proximal Enhancer:-5740, PBMC,Tcell; 6:32820029, PSMB8||5' Proximal Enhancer:-8213|5' Proximal Enhancer:-7317, PBMC; 6:32820249, PSMB8||5' Proximal Enhancer:-8433|5' Proximal Enhancer:-7537, Monocyte; 6:32820355, PSMB8||5' Proximal Enhancer:-8539|5' Proximal Enhancer:-7643, Bcell,Monocyte,Whole Blood; 6:33053576, HLA-DPA1||5' Proximal Enhancer:-5021, Whole Blood; 6:33284542, DAXX||3' Proximal Enhancer:6251, Monocyte; 6:33379330, CUTA||3' Proximal Enhancer:6735, PBMC,Tcell; 6:34984953, ANKS1A||Intron 10:127916, Monocyte; 7:157370486, PTPRN2||Intron 17:Intron 18:1009996, Whole Blood; 7:2800436, GNA12||Intron 2:83523, Monocyte; 7:30951425, AQP1||5' Proximal Enhancer:-9693|5' Proximal Enhancer:-

9679|5' Proximal Enhancer:-9489|Proximal Promoter:11, Monocyte; 7:75931606, HSPB1||Proximal Promoter:-268, Tcell; 7:91570873, AKAP9||Intron 1:685, Tcell; 8:118968448, EXT1||Intron 1:155610, Monocyte; 8:144097587, LOC100133669||Intron 1:2220, LY6E||Proximal Promoter:-2314, PBMC; 8:144097593, LOC100133669||Intron 1:2214, LY6E||Proximal Promoter:-2308, PBMC; 8:144097618, LOC100133669||Intron 1:2189, LY6E||Proximal Promoter:-2283, PBMC; 8:144097625, LOC100133669||Intron 1:2182, LY6E||Proximal Promoter:-2276, PBMC; 8:144097628, LOC100133669||Intron 1:2179, LY6E||Proximal Promoter:-2273, PBMC; 8:144097642, LOC100133669||Intron 1:2165, LY6E||Proximal Promoter:-2259, PBMC; 8:144097717, LOC100133669||Intron 1:2090, LY6E||Proximal Promoter:-2184, PBMC; 8:144097725, LOC100133669||Intron 1:2082, LY6E||Proximal Promoter:-2176, PBMC; 8:144098888, LOC100133669||Intron 1:919, LY6E||Proximal Promoter:-1013, Monocyte,Tcell,Whole Blood; 8:144099482, LOC100133669||Proximal Promoter:325, LY6E||Proximal Promoter:-419, Bcell,Monocyte,Tcell,Whole Blood; 8:144099566, LOC100133669||Proximal Promoter:241, LY6E||Proximal Promoter:-335, Bcell,Monocyte,Tcell; 8:144102490, LOC100133669||Distal Promoter:-2683, LY6E||Intron 2:2589, PBMC; 8:144102512, LOC100133669||Distal Promoter:-2705, LY6E||Intron 2:2611, PBMC; 8:144102534, LOC100133669||Distal Promoter:-2727, LY6E||Intron 2:2633, PBMC; 8:144102571, LOC100133669||Distal Promoter:-2764, LY6E||Intron 2:2670, PBMC; 8:144102584, LOC100133669||Distal Promoter:-2777, LY6E||Intron 2:2683, Bcell,Monocyte,Tcell,Whole Blood; 8:144102587, LOC100133669||Distal Promoter:-2780, LY6E||Intron 2:2686, PBMC; 8:144102871, LOC100133669||Distal Promoter:-3064, LY6E||Intron 3:2970, PBMC,Tcell; 8:144103435, LOC100133669||Distal Promoter:-3628, LY6E||Exon 4:3534, PBMC; 8:144103437, LOC100133669||Distal Promoter:-3630, LY6E||Exon 4:3536, PBMC; 8:144103446, LOC100133669||Distal Promoter:-3639, LY6E||Exon 4:3545, PBMC; 8:144103467, LOC100133669||Distal Promoter:-3660, LY6E||Exon 4:3566, PBMC; 8:144103523, LOC100133669||Distal Promoter:-3716, LY6E||Exon 4:3622, PBMC; 8:144103555, LOC100133669||Distal Promoter:-3748, LY6E||Exon 4:3654, PBMC; 8:144103572, LOC100133669||Distal Promoter:-3765, LY6E||Exon 4:3671, PBMC; 8:144103582, LOC100133669||Distal Promoter:-3775, LY6E||Exon 4:3681, PBMC; 8:144103587, LOC100133669||Distal Promoter:-3780, LY6E||Exon 4:3686, Bcell,PBMC,Tcell,Whole Blood; 8:144105055, LOC100133669||5' Proximal Enhancer:-5248, LY6E||3' Proximal Enhancer:5154, Monocyte,PBMC,Tcell; 8:144105210, LOC100133669||5' Proximal Enhancer:-5403, LY6E||3' Proximal Enhancer:5309, Bcell,Monocyte,PBMC,Tcell; 8:144105259, LOC100133669||5' Proximal Enhancer:-5452, LY6E||3' Proximal Enhancer:5358, Bcell,Monocyte,PBMC,Tcell; 8:144107231, LOC100133669||5' Proximal Enhancer:-7424, LY6E||3' Proximal Enhancer:7330, PBMC,Tcell; 8:22960385, TNFRSF10C||Proximal Promoter:59, Tcell; 8:27283945, PTK2B||Intron 5:100865|Intron 5:100950|Intron 6:104027|Intron 10:114947, PBMC; 8:42234724, DKK4||Proximal Promoter:-50, PBMC; 8:66699054, PDE7A||Intron 1:2275|Intron 1:54915, Tcell; 8:66751182, PDE7A||Intron 1:2787, Bcell,Monocyte,Whole Blood; 8:87356638, WWP1||Intron 1:1645, Monocyte; 9:101871229, TGFBR1||Intron 1:3818, PBMC; 9:101912842, TGFBR1||Exon 8:Exon 9:45431, PBMC; 9:139259726, CARD9||Intron 10:8407, Monocyte; 9:33168018, B4GALT1||Proximal Promoter:-662, Monocyte; 9:91997686, SEMA4D||Intron 15:96925, Whole Blood; X:105067054, NRK||Intron 1:519, PBMC; X:139593371, SOX3||5' Proximal Enhancer:-6146, PBMC; X:153141451, L1CAM||Proximal Promoter:-52, PBMC; X:153218937, HCFC1||Intron 18:17882, PBMC; X:153606335, EMD||Proximal Promoter:-1261, Monocyte; X:40506749, MED14||3' Proximal Enhancer:88055, Whole Blood; X:40510247, MED14||Exon 31:84557, PBMC; X:48887326, TFE3||Exon 10:13664, PBMC; X:48901405, TFE3||Proximal Promoter:-415, PBMC;

Table 4

DML coordinates are listed for selected DML. DML coordinate refers to the chromosomal coordinate (chromosome:coordinate) of the cytosine of a CpG on the + strand (University of California Santa Cruz; UCSC hg19 genome build). Each DML coordinate is labeled according to position on the + strand for simplicity but the DML may refer to the CpG on the + and/or – strand.

1:174844490, 1:21670736, 1:79085162, 1:79085250, 1:79085586, 1:79085713, 1:79085765, 1:79088769, 1:79111320, 1:79114976, 1:79118191, 10:34344580, 10:91144795, 10:91151885, 10:91153143, 10:91172454, 11:313267, 11:313624, 11:315102, 11:315262, 11:319718, 11:614761, 11:614787, 12:113345598, 14:94577101, 15:77472416, 16:57023022, 17:75417165, 19:17514600, 2:37383568, 2:7004578, 2:7016509, 2:7018020, 2:7018153, 2:84709147, 20:62198872, 20:62199034, 20:62199181, 20:62199190, 20:62200091, 20:62200199, 20:62200285, 20:62212228, 21:42797588, 21:42797847, 21:42799141, 22:18635460, 22:42078707, 22:50971140, 3:122281939, 3:122281975, 3:122284215, 3:122285010, 3:122400474, 3:138048937, 3:146258875, 3:146260954, 4:169239131, 4:90481402, 6:158492604, 6:31431312, 6:31431407, 6:31431503, 8:144097644, 8:144099482, 8:144102584, 8:144102871, 8:144103587, 8:144105055, 8:144105210, 8:144105259, 8:144107231, 8:66751182, 9:100850391, 9:32525315

WHAT IS CLAIMED IS:

1. A method of diagnosis of SLE in a mammalian subject comprising the steps of:

isolating DNA from a patient;

determining a methylation status of a panel of loci of DNA from said patient; and

collectively analyzing the methylation status of the loci in the panel using a computer to ascertain a likelihood that the patient has SLE.

2. The method of Claim 1 wherein said panel comprises a locus of a methylation site specified in Table 2A.

3. The method of Claim 1 wherein said panel comprises a locus of a methylation site specified in Table 2B.

4. The method of Claim 1 wherein said panel comprises a locus of a methylation site specified in Table 3A.

5. The method of Claim 1 wherein said panel comprises a locus of a methylation site specified in Table 3B.

6. The method of any of Claims 1-5, wherein said panel comprises a locus of a methylation site of Table 4.

7. The method of any of Claims 1-6, wherein the methylation status of at least 5 loci are determined.

8. The method of any of Claims 1-6, wherein the methylation status of at least 10 loci are determined.

9. The method of any of Claims 1-6, wherein the methylation status of at least 25 loci are determined.

10. The method of any Claims 1-6, wherein the methylation status of at least 50 loci are determined.

11. The method of any of Claims 1-10, wherein at least one of said loci comprises 500 bp on either side of the methylation site.

12. The method of any of Claims 1-10, wherein at least one of said loci comprises 2.5kb on either side of the methylation site.

13. The method of any of Claims 1-10, wherein said DNA is isolated from a source selected from the list comprising: free circulating DNA, DNA isolated from urine, DNA

isolated from blood, DNA isolated from other body fluid, DNA isolated from other body tissue.

14. The method of Claim 1, wherein said DNA is isolated from at least one peripheral blood mononuclear cell.

15. The method of Claim 14, wherein said at least one peripheral blood mononuclear cell is selected from a group comprising: T-cells, B-cells, monocytes, Th1 cells, Th2 cells, Th17 cells, T-regs, NK cells, B1 cells, B2 cells, M1 and M2 monocytes, or dendritic cells.

16. The method of any of Claims 1-15, wherein said panel further comprises at least one locus of a methylation site specified in Table 1A.

17. The method of any of Claims 1-15, wherein said panel further comprises at least one locus of a methylation site specified in Table 1B.

18. The method of any of Claims 1-10, further comprising comparing said patient methylation status to that of a corresponding locus in a sample from a non-SLE DNA source.

19. The method of any of Claims 1-10, further comprising comparing said patient methylation status to that of a corresponding locus in a sample from an SLE DNA source.

20. The method of any of Claims 1-19, further comprising analyzing on the computer the status of one or more of the traits selected from the list comprising: SNP or gene variation status, levels of auto-antibodies such as anti-dsDNA antibodies or anti-nuclear antibodies, and serum proteins such as cytokine or chemokine levels or inflammatory molecules together with analyzing the methylation status of the loci in the panel.

21. A method for detecting methylation events at one or more methylation sites set forth in at least one of Table 2A or 2B or Table 3A or 3B, which comprises subjecting a human sample to chemical treatment that differentially affects methylated bases of said human sample, and ascertaining the extent of methylation of a panel of regions comprising at least one region of a locus of a methylation site specified in at least one of Table 2A or 2B or Table 3A or 3B as an indicator of SLE status based on said differential effect.

22. The method of Claim 21, wherein said treatment comprises contacting said locus with bisulfite.

23. The method of Claim 21, wherein said panel comprises at least 5 loci.

24. The method of Claim 21, wherein said panel comprises at least 10 loci.

25. The method of Claim 21, wherein said panel comprises at least 20 loci.

26. The method of Claim 21, wherein said panel comprises at least 50 loci.

27. The method of Claim 21, wherein said panel comprises a methylation site of Table 4.

28. A method of diagnosis of SLE in a mammalian subject comprising the steps of:

isolating at least one cell from a patient;

determining accumulation levels of transcripts from a panel of genes identified from said at least one cell; and

collectively analyzing the methylation status of the loci in the panel using a computer to ascertain a likelihood that the patient has SLE.

29. The method of Claim 28, wherein said at least one gene of said panel is identified in Table 2A.

30. The method of Claim 28, wherein said at least one gene of said panel is identified in Table 2B.

31. The method of Claim 28, wherein said at least one gene of said panel is identified in Table 3A.

32. The method of Claim 28, wherein said at least one gene of said panel is identified in Table 3B.

33. The method of Claim 28, wherein said at least one gene of said panel is identified in Table 1A.

34. The method of Claim 28, wherein said at least one gene of said panel is identified in Table 1B.

35. The method of any of Claims 28-34, wherein said at least one gene of said panel corresponds to a methylation site which is listed in Table 4.

36. The method of any of Claims 28-35, wherein said at least one gene is within 1 kb of a methylation site.

37. The method of any of Claims 28-35, wherein said at least one gene is within 10 kb of a methylation site.

38. The method of any of Claims 28-37, wherein said at least one cell is a peripheral blood mononuclear cell.

39. The method of any of Claims 28-37, wherein said at least one peripheral blood mononuclear cell is selected from a group comprising: T-cells, B-cells, monocytes, Th1 cells,

Th2 cells, Th17 cells, T-regs, NK cells, B1 cells, B2 cells, M1 and M2 monocytes, or dendritic cells.

40. The method of any of Claims 28-39, wherein the accumulation levels of at least 5 transcripts are determined.

41. The method of any of Claims 28-39, wherein the accumulation levels of at least 10 transcripts are determined.

42. The method of any of Claims 28-39, wherein the accumulation levels of at least 20 transcripts are determined.

43. The method of any of Claims 28-39, wherein the accumulation levels of at least 50 transcripts are determined.

44. The method of any of Claims 28-43 further comprising comparing said accumulation level to that of a corresponding transcript in a cell from a non-SLE patient.

45. The method of any of Claims 28-43 further comprising comparing said accumulation level to that of a corresponding transcript in cell from an SLE patient.

46. A method for evaluating SLE in a mammalian subject comprising:

Measuring the accumulation level or activity level of each of a panel of proteins in a sample comprising peripheral blood mononuclear cells of the subject, wherein each of the proteins is encoded by a gene that is identified by a methylation site in Table 2A, Table 2B, Table 3A or Table 3B; and

collectively analyzing the measured levels in the panel using a computer to ascertain a likelihood that the patient has SLE.

47. The method of Claim 46, wherein said panel includes a protein encoded by a gene that is identified in Table 2A.

48. The method of Claim 46, wherein said panel includes a protein encoded by a gene that is identified in Table 2B.

49. The method of Claim 46, wherein said panel includes a protein encoded by a gene that is identified in Table 3A.

50. The method of Claim 46, wherein said panel includes a protein encoded by a gene that is identified in Table 3B.

51. The method of any of Claims 46-50, wherein said panel includes a protein encoded by a gene that is identified in Table 4.

52. The method of any of Claims 46-51, wherein said protein is encoded by a gene within 1kb of a methylation site.

53. The method of any of Claims 46-51, wherein said protein is encoded by a gene within 10 kb of a methylation site.

54. The method of any of Claims 46-53, wherein said at least one peripheral blood mononuclear cell is selected from a group comprising: T-cells, B-cells, monocytes, Th1 cells, Th2 cells, Th17 cells, T-regs, NK cells, B1 cells, B2 cells, and M1 and M2 monocytes or dendritic cells.

55. The method of any of Claims 46-54, further comprising comparing said protein accumulation level or activity to that of a corresponding protein in a cell from a non-SLE patient.

56. The method of any of Claims 46-54, further comprising comparing said protein accumulation level or activity to that of a corresponding protein in a cell from an SLE patient.

57. The method of any of Claims 46-56, wherein the protein accumulation level or protein activity from a protein extract from a panel of proteins identified from said at least one cell is determined.

58. The method of Claim 57, wherein said panel comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 2A or Table 2B.

59. The method of Claim 57, wherein said panel comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 2A.

60. The method of Claim 57, wherein said panel comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 2B.

61. The method of Claim 58, wherein said panel further comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 3A.

62. The method of Claim 58, wherein said panel further comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 3B.

63. The method of Claim 58, wherein said panel further comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 1A.

64. The method of Claim 58, wherein said panel further comprises protein accumulation level or protein activity identified with at least one locus selected from the list of loci of methylation sites specified in Table 1B.

65. The method of Claim 58, wherein said panel comprises protein accumulation level or protein activity identified with at least one locus selected from the list of methylation sites in Table 4.

66. The method of any of Claims 58-65, wherein the protein accumulation level or protein activity identified with at least 5 loci is determined.

67. The method of any of Claims 58-65, wherein the protein accumulation level or protein activity identified with at least 10 loci is determined.

68. The method of any of Claims 58-65, wherein the protein accumulation level or protein activity identified with at least 20 loci is determined.

69. The method of any of Claims 58-65, wherein the protein accumulation level or protein activity identified with at least 50 loci is determined.

70. The method of any of Claims 46-69, further comprising comparing said protein accumulation level or protein activity to that of a corresponding gene in a cell from a non-SLE patient.

71. The method of any of Claims 46-69, further comprising comparing said protein accumulation level or protein activity to that of a corresponding gene in a cell from an SLE patient.

72. A method of characterizing a potential SLE disease status in a subject, comprising the steps of:

ascertaining the methylation status of a panel comprising at least 3 methylation sites in DNA from a mammalian subject, wherein said methylation sites are differentially methylated in individuals with SLE;

electronically comparing in a computer values reflective of said methylation status of said panel of methylation sites with stored information reflective of methylation status of methylation sites in at least one standard population;

generating a report based on said comparison relative to said potential autoimmune disease; and

providing said report to a caregiver or to said subject;

wherein said at least 3 methylation sites are selected from the methylation sites listed in Tables 1A, 1B, 2A, 2B, 3A, and 3B.

73. The method of Claim 72, wherein said panel comprises a methylation site of Table 2A.

74. The method of Claim 72, wherein said panel comprises a methylation site of Table 2B.

75. The method of Claim 72, wherein said panel comprises a methylation site of Table 3A.

76. The method of Claim 72, wherein said panel comprises a methylation site of Table 3B.

77. The method of Claim 72, wherein said panel comprises a methylation site of Table 1A.

78. The method of Claim 72, wherein said panel comprises a methylation site of Table 1B.

79. The method of any of Claims 72-78, wherein said panel comprises a methylation site of Table 4.

80. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA from said subject.

81. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA from circulating cells of said subject comprising PBMC cells.

82. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA from free circulating DNA of said subject.

83. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA from T-cells of said subject.

84. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA from B-cells of said subject.

85. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA from monocytes of said subject.

86. The method of any of Claims 72-79, wherein said ascertaining step comprises receiving values reflective of methylation status based on laboratory analysis of DNA whole blood.

87. The method of any of Claims 72-86, wherein said laboratory analysis comprises chemical treatment of DNA extracted from said sample that differentially affects methylated and unmethylated bases.

88. The method of Claim 87, wherein said treatment comprises bisulfite treatment.

89. The method of Claim 72, wherein said laboratory analysis comprises amplification of fragments of DNA comprising loci having a differentially methylated site.

90. The method of any of Claims 72-89, wherein said panel comprises at least 5 methylation sites.

91. The method of any of Claims 72-89, wherein said panel comprises at least 10 methylation sites.

92. The method of any of Claims 72-89, wherein said panel comprises at least 20 methylation sites.

93. The method of any of Claims 72-89, wherein said panel comprises at least 50 methylation sites.

FIGURES

Figure 1: Combining DMLs may produce better performing models.

DML List	Support Vector Machine Error	DML Coordinates (chr:coordinate)
DML 1-3	16%	21:42799141; 22:18635460; 3:122281975
DML 4-6	12%	4:169239131; 3:122281939; 22:42078707
DML 7-9	15%	1:79085250; 2:74264707; 10:91153143
All 9 DML (DML 1- 9)	3%	See all nine entries, above

Figure 2: Error rate declines as DML set size increases.

DML Set Size	SVM Error (no noise)	SVM Error (2 Noisy Samples)	SVM Error (8 Noisy Samples)	DML(s) novel to this Set
2	19%	19%	38%	21:42799141; 22:18635460
3	17%	16%	53%	3:122281975
4	12%	13%	41%	4:169239131
5	13%	14%	33%	3:122281939
6	11%	9%	30%	22:42078707
7	8%	11%	38%	1:79085250
8	4%	3%	36%	2:74264707
9	3%	21%	21%	10:91153143
10	1%	13%	42%	6:31431503
11	1%	1%	28%	2:37383568
12	2%	16%	28%	20:62199181
13	1%	1%	44%	8:66751182
14	0%	11%	56%	12:10545083
15	0%	0%	21%	3:122400474
16	0%	1%	14%	21:46341389
17	0%	0%	13%	2:7018153
18	0%	0%	13%	2:7018020
19	0%	1%	13%	11:129992359
20	0%	2%	9%	2:7004578
21	0%	1%	31%	16:1610898
22	0%	1%	19%	14:7644801
23	0%	0%	53%	11:118741387
24	0%	1%	20%	11:12132245
25	0%	2%	8%	6:29911366

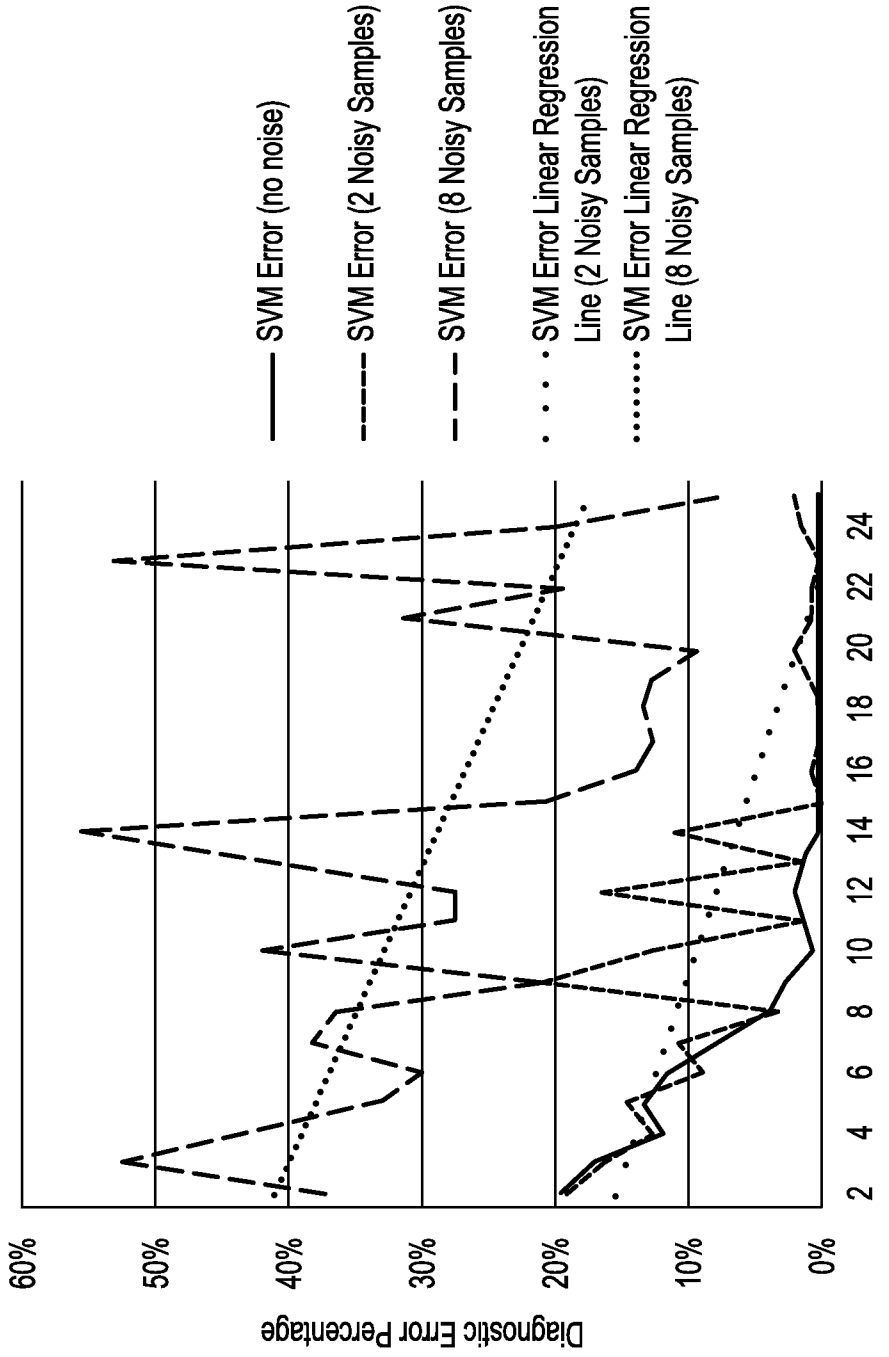

Figure 3: Decline in Error Rate as Panel size increases