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【手続補正書】

【提出日】令和6年6月25日(2024.6.25)

【手続補正1】

【補正対象書類名】特許請求の範囲

【補正対象項目名】全文

【補正方法】変更

【補正の内容】

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【特許請求の範囲】

【請求項1】

好酸球増多症又は気管支喘息を検査する方法であって、

(1) 被検体から採取された体液の細胞外小胞又は体液における、タンパク質群(A)、タンパク質群(X)、タンパク質群(B)、タンパク質群(C)、タンパク質群(D)、タンパク質群(E)、タンパク質群(F)、並びにタンパク質群(G)：

(A) Galectin-10、Bone marrow proteoglycan、Eosinophil peroxidase、Non-secretory ribonuclease、及びEosinophil cationic proteinからなるタンパク質群、(X)Cholinesterase、Galectin-10、Exportin-2、Eosinophil peroxidase、Coagulation factor XII、Ficolin-3、Immunoglobulin heavy variable 4-28、Immunoglobulin heavy variable 6-1、Immunoglobulin heavy variable 7-43、Immunoglobulin heavy variable 8-61、及びImmunoglobulin heavy variable 9-49からなるタンパク質群、

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(B) HLA class II histocompatibility antigen, DRB1-9 beta chain、Galectin-10、Eosinophil peroxidase、Protein mono-ADP-ribosyltransferase PARRP4、Non-secretory ribonuclease、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2D-29、Immunoglobulin heavy constant gamma 2、Cytochrome P450 4F8、C-type lectin d

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omain family 12 member A、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-21、Short/branched chain specific acyl-CoA dehydrogenase, mitochondrial、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Prelamin-A/C、CMRF 35-like molecule 1、Eosinophil cationic protein、GDH/6PGL endoplasmic bifunctional protein、Low affinity immunoglobulin gamma Fc region receptor III-A、Urokinase plasminogen activator surface receptor、Voltage-gated hydrogen channel 1、RNA polymerase-associated protein RTF1 homolog、Cytochrome P450 4F3、Neutrophil cytosol factor 4、Activated RNA polymerase II transcriptional coactivator p15、Cell surface glycoprotein CD200 receptor 1、Major vault protein、C-type lectin domain family 5 member A、Disintegrin and metalloproteinase domain-containing protein 8、Zinc finger Ran-binding domain-containing protein 2、Myeloid cell surface antigen CD33、Heme oxygenase 2、Lysosomal acid glucosylceramidase、Cartilage intermediate layer protein 1、Sialic acid-binding Ig-like lectin 5、Arachidonate 5-lipoxygenase、Estradiol 17-beta-dehydrogenase 11、Torsin-1A、Cytochrome b-245 light chain、Lysosomal-traffic trafficking regulator、Liver carboxylesterase 1、Resistin、Immunoglobulin heavy constant alpha 1、Torsin-1A-interacting protein 1、Hexokinase-3、Cytidine deaminase、Matrix metalloproteinase-25、Aldehyde dehydrogenase family 3 member B1、Platelet basic protein、Type-1 angiotensin II receptor-associated protein、Metalloreductase STEAP4、Protein S100-P、Cytochrome b-245 heavy chain、Immunoglobulin alpha Fc receptor、Phospholipase B-like 1、Lysophosphatidylcholine acyltransferase 2、Arachidonate 5-lipoxygenase-activating protein、Coagulation factor XII、Lysophospholipid acyltransferase 7、Protein S100-A9、Protein DEK、Neutrophil defensin 1、Neutrophil defensin 1、Neutrophil defensin 3、Serum amyloid A-4 protein、Erlin-2、Leukotriene B4 receptor 1、Epoxide hydrolase 1、Microsomal glutathione S-transferase 1、Tyrosine-protein phosphatase non-receptor type substrate 1、Complement factor D、PITH domain-containing protein 1、Annexin A1、Piezo-type mechanosensitive ion channel component 1、Apolipoprotein B receptor、Protein S100-A11、Apoptosis-associated speck-like protein containing a CARD、Long-chain-fatty-acid--CoA ligase 1、Glycerol-3-phosphate acyltransferase 3、Alpha-1-acid glycoprotein 1、Anoctamin-10、Leucine-rich repeat and calponin homology domain-containing protein 4、及びVery-long-chain 3-oxoacyl-CoA reductaseからなるタンパク質群、

(C) Thioredoxin domain-containing protein 12、Bone morphogenetic protein 10、Butyrophilin subfamily 3 member A2、Mitogen-activated protein kinase kinase kinase 7、Methyltransferase-like 26、von Willebrand factor A domain-containing protein 5A、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Gamma-enolase、LHFPL tetraspan subfamily member 6 protein、FYVE、RhoGEF and PH domain-containing protein 4、Sorcin、Tetraspanin-33、Tight junction protein ZO-2、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Disintegrin and metalloproteinase domain-containing protein 10、Choline transporter-like protein 2、Probable UDP-sugar transporter protein SLC35A5、WD repeat-containing protein 11、及びCanalicular multispecific organic anion transporter 2からなるタンパク質群、

(D) Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2

、 Immunoglobulin heavy constant gamma 2、 Prelamin-A/C、 C-type lectin domain family 12 member A、 Low affinity immunoglobulin gamma Fc region receptor III-A、 Non-secretory ribonuclease、 Cartilage intermediate layer protein 1、 Galectin-10、 Resistin、 Estradiol 17-beta-dehydrogenase 11、 Bactericidal permeability-increasing protein、 Cell surface glycoprotein CD200 receptor 1、 Putative neutrophil cytosol factor 1B、 Putative neutrophil cytosol factor 1B、 Neutrophil cytosol factor 1、 Neutrophil cytosol factor 4、 Matrix metalloproteinase-25、 Heme oxygenase 2、 Urokinase plasminogen activator surface receptor、 Epoxide hydrolase 1、 Torsin-1A-interacting protein 1、 Arachidonate 5-lipoxygenase、 2'-deoxy-10
nucleoside 5'-phosphate N-hydrolase 1、 Amyloid-beta precursor protein、 Arachidonate 5-lipoxygenase-activating protein、 Alpha-1-acid glycoprotein 1、 Protein S100-A9、 Perilipin-1、 Protein DEK、 Protein S100-P、 ELMO domain-containing protein 2、 Microsomal glutathione S-transferase 1、 Phospholipase B-like 1、 Cytochrome b-245 heavy chain、 Merlin、 Complement factor I、 Cytochrome b-245 light chain、 Casein kinase I isoform gamma-1、 Inter-alpha-trypsin inhibitor heavy chain H1、 Long-chain-fatty-acid--CoA ligase 1、 及び Inter-alpha-trypsin inhibitor heavy chain H2からなるタンパク質群、

(E) HLA class II histocompatibility antigen, DRB1-4 beta chain、 Gasdermin-D、 MAP/microtubule affinity-regulating kinase 3、 Thioredoxin domain-containing protein 12、 Methyltransferase-like 26、 LIM domain and actin-binding protein 1、 Serine/threonine-protein phosphatase PP1-gamma catalytic subunit、 Methionine--tRNA ligase, cytoplasmic、 Butyrophilin subfamily 3 member A2、 FYVE、 RhoGEF and PH domain-containing protein 4、 Katanin p60 ATPase-containing subunit A-like 1、 von Willebrand factor A domain-containing protein 5A、 Tight junction protein ZO-2、 Proteinase-activated receptor 1、 Gamma-enolase、 Mitogen-activated protein kinase kinase kinase 7、 Cytohesin-2、 Immunoglobulin-binding protein 1、 Armadillo repeat-containing protein 8、 Nucleolysin TIA-1 isoform p40、 Nucleolysin TIA-1 isoform p40、 Nucleolysin TIAR、 Integrin beta-3、 GMP reductase 1、 cGMP-inhibited 3',5'-cyclic phosphodiesterase A、 Coactosin-like protein、 Integrin alpha-IIb、 Protein cereblon、 PDZ and LIM domain protein 1、 Basic leucine zipper and W2 domain-containing protein 1、 LHFPL tetraspan subfamily member 6 protein、 WD repeat-containing protein 11、 Tyrosine-protein kinase BTK、 DENN domain-containing protein 4C、 N-acetyl-D-glucosamine kinase、 Cofilin-1、 Translin-associated protein X、 Choline transporter-like protein 2、 Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-11、 ADP-ribosylation factor 4、 FYN-binding protein 1、 Ubiquitin-conjugating enzyme E2 D3、 40
Ubiquitin-conjugating enzyme E2 D3、 Ubiquitin-conjugating enzyme E2 D2、 Caveolae-associated protein 2、 EH domain-containing protein 3、 EH domain-containing protein 1、 cAMP-dependent protein kinase type I-alpha regulatory subunit、 Synaptotagmin-like protein 4、 及び Charged multi-vesicular body protein 2aからなるタンパク質群、

(F) Galectin-10、 Eosinophil peroxidase、 Bone marrow proteoglycan、 Arachidonate 15-lipoxygenase、 Non-secretory ribonuclease、 Immunoglobulin kappa variable 2D-29、 Immunoglobulin kappa variable 2D-29、 Immunoglobulin kappa variable 2-29、 2'-deoxynucleoside 5'-phosphate N-hydrolase 1、 Voltage-gated hydrogen channel 1、 Eosinophil cationic protei- 50

n、Cytochrome b-245 light chain、Disintegrin and metalloproteinase domain-containing protein 8、Aldehyde dehydrogenase family 3 member B 1、Cytidine deaminase、Heme oxygenase 2、Immunoglobulin heavy constant alpha 1、Metalloreductase STEAP4、Type-1 angiotensin II receptor-associated protein、Sialic acid-binding Ig-like lectin 5、Torsin-1A-interacting protein 1、Annexin A1、Estradiol 17-beta-dehydrogenase 11、Endoplasmic reticulum-Golgi intermediate compartment protein 1、Erlin-2、Anoctamin-10、及びRas-related protein Rab-27Aからなるタンパク質群、並びに

(G) Bone morphogenetic protein 10、Thioredoxin domain-containing protein 12、Intermediate conductance calcium-activated potassium channel protein 4、Probable UDP-sugar transporter protein SLC35A5、Golgi integral membrane protein 4、Protein CASC4、Putative tyrosine-protein phosphatase auxilin、Butyrophilin subfamily 3 member A2、C1GALT1-specific chaperone 1、Protein FAM234B、Tetraspanin-33、Canalicular multispecific organic anion transporter 2、Mitogen-activated protein kinase kinase 7、Type 2 phosphatidylinositol 4,5-bisphosphate 4-phosphatase、Wiskott-Aldrich syndrome protein family member 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、DAZ-associated protein 1、C-type lectin domain family 2 member L、Leucyl-cystinyl aminopeptidase、Progressive ankylosis protein homolog、Disintegrin and metalloproteinase domain-containing protein 10、Calpain-7、Choline transporter-like protein 1、LHFPL tetraspan subfamily member 6 protein、STARD3 N-terminal-like protein、Inactive rhomboid protein 2、Serine incorporator 3、Annexin A4、Cas scaffolding protein family member 4、Low-density lipoprotein receptor-related protein 10、Tetraspanin-32、von Willebrand factor A domain-containing protein 5A、Gamma-enolase、MICAL-like protein 2、Vacuolar protein sorting-associated protein 4B、Metalloreductase STEAP3、Choline transporter-like protein 2、Protein transport protein Sec24C、Bis(5'-adenosyl)-triphosphatase ENPP4、Solute carrier family 12 member 4、Solute carrier family 12 member 7、及びSolute carrier family 43 member 3からなるタンパク質群、
からなる群より選択される少なくとも1種のタンパク質を検出する工程を含む、検査方法。

【請求項 2】

検査対象疾患が呼吸器疾患である、請求項 1 に記載の検査方法。

【請求項 3】

検査対象疾患が気管支喘息である、請求項 1 に記載の検査方法。

【請求項 4】

検査対象疾患が好酸球性喘息である、請求項 1 ~ 3 のいずれかに記載の検査方法。

【請求項 5】

検出するタンパク質が、タンパク質群 (F) 及びタンパク質群 (G) からなる群より選択される少なくとも1種のタンパク質を含む、請求項 4 に記載の検査方法。

【請求項 6】

検出したタンパク質が、タンパク質群 (F) より選択される少なくとも1種のタンパク質 (タンパク質 F') を含む場合、さらに、
(2F) 前記工程 (1) で検出されたタンパク質 F' の量又は濃度がカットオフ値以上である場合に、前記被検体が好酸球性喘息に罹患していると判定する工程、
を含む、請求項 4 に記載の検査方法。

【請求項 7】

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検出したタンパク質が、タンパク質群（G）より選択される少なくとも1種のタンパク質（タンパク質G'）を含む場合、さらに、
（2G）前記工程（1）で検出されたタンパク質G'の量又は濃度がカットオフ値以下である場合に、前記被検体が好酸球性喘息に罹患していると判定する工程、
を含む、請求項4に記載の検査方法。

【請求項8】

検査対象疾患がアトピー性喘息である、請求項1～3のいずれかに記載の検査方法。

【請求項9】

検出するタンパク質が、タンパク質群（D）及びタンパク質群（E）からなる群より選択される少なくとも1種のタンパク質を含む、請求項8に記載の検査方法。

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【請求項10】

検出したタンパク質が、タンパク質群（D）より選択される少なくとも1種のタンパク質（タンパク質D'）を含む場合、さらに、
（2D）前記工程（1）で検出されたタンパク質D'の量又は濃度がカットオフ値以上である場合に、前記被検体がアトピー性喘息に罹患していると判定する工程、
を含む、請求項8に記載の検査方法。

【請求項11】

検出したタンパク質が、タンパク質群（E）より選択される少なくとも1種のタンパク質（タンパク質E'）を含む場合、さらに、
（2E）前記工程（1）で検出されたタンパク質E'の量又は濃度がカットオフ値以下である場合に、前記被検体がアトピー性喘息に罹患していると判定する工程、
を含む、請求項8に記載の検査方法。

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【請求項12】

検出するタンパク質が、タンパク質群（A）を含む、請求項1～3のいずれかに記載の検査方法。

【請求項13】

検出したタンパク質が、タンパク質群（A）より選択される少なくとも1種のタンパク質（タンパク質A'）を含む場合、さらに、
（2A）前記工程（1）で検出されたタンパク質A'の量又は濃度がカットオフ値以上である場合に、前記被検体が高重症度の好酸球増多症又は気管支喘息に罹患している又は高重症度の好酸球増多症又は気管支喘息に将来罹患する可能性が高いと判定する工程、
を含む、請求項1～3のいずれかに記載の検査方法。

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【請求項14】

タンパク質群（A）、タンパク質群（X）、タンパク質群（B）、タンパク質群（C）、タンパク質群（D）、タンパク質群（E）、タンパク質群（F）、並びにタンパク質群（G）
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（A）Galectin-10、Bone marrow proteoglycan、Eosinophil peroxidase、Non-secretory ribonuclease、及びEosinophil cationic proteinからなるタンパク質群、（X）Cholinesterase、Galectin-10、Exportin-2、Eosinophil peroxidase、Coagulation factor XII、Ficolin-3、Immunoglobulin heavy variable 4-28、Immunoglobulin heavy variable 6-1、Immunoglobulin heavy variable 7-43、Immunoglobulin heavy variable 8-61、及びImmunoglobulin heavy variable 9-49からなるタンパク質群、

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（B）HLA class II histocompatibility antigen、DRB1-9 beta chain、Galectin-10、Eosinophil peroxidase、Protein mono-ADP-ribosyltransferase PARRP4、Non-secretory ribonuclease、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2D-29、Immunoglobulin heavy constant gamma 2、Cytochrome P450 4F8、C-type lectin d

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omain family 12 member A、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-21、Short/branched chain specific acyl-CoA dehydrogenase, mitochondrial、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Prelamin-A/C、CMRF 35-like molecule 1、Eosinophil cationic protein、GDH/6PGL endoplasmic bifunctional protein、Low affinity immunoglobulin gamma Fc region receptor III-A、Urokinase plasminogen activator surface receptor、Voltage-gated hydrogen channel 1、RNA polymerase-associated protein RTF1 homolog、Cytochrome P450 4F3、Neutrophil cytosol factor 4、Activated RNA polymerase II transcriptional coactivator p15、Cell surface glycoprotein CD200 receptor 1、Major vault protein、C-type lectin domain family 5 member A、Disintegrin and metalloproteinase domain-containing protein 8、Zinc finger Ran-binding domain-containing protein 2、Myeloid cell surface antigen CD33、Heme oxygenase 2、Lysosomal acid glucosylceramidase、Cartilage intermediate layer protein 1、Sialic acid-binding Ig-like lectin 5、Arachidonate 5-lipoxygenase、Estradiol 17-beta-dehydrogenase 11、Torsin-1A、Cytochrome b-245 light chain、Lysosomal-traffic-ficking regulator、Liver carboxylesterase 1、Resistin、Immunoglobulin heavy constant alpha 1、Torsin-1A-interacting protein 1、Hexokinase-3、Cytidine deaminase、Matrix metalloproteinase-25、Aldehyde dehydrogenase family 3 member B1、Platelet basic protein、Type-1 angiotensin II receptor-associated protein、Metalloreductase STEAP4、Protein S100-P、Cytochrome b-245 heavy chain、Immunoglobulin alpha Fc receptor、Phospholipase B-like 1、Lysophosphatidylcholine acyltransferase 2、Arachidonate 5-lipoxygenase-activating protein、Coagulation factor XII、Lysophospholipid acyltransferase 7、Protein S100-A9、Protein DEK、Neutrophil defensin 1、Neutrophil defensin 1、Neutrophil defensin 3、Serum amyloid A-4 protein、Erlin-2、Leukotriene B4 receptor 1、Epoxide hydrolase 1、Microsomal glutathione S-transferase 1、Tyrosine-protein phosphatase non-receptor type substrate 1、Complement factor D、PITH domain-containing protein 1、Annexin A1、Piezo-type mechanosensitive ion channel component 1、Apolipoprotein B receptor、Protein S100-A11、Apoptosis-associated speck-like protein containing a CARD、Long-chain-fatty-acid--CoA ligase 1、Glycerol-3-phosphate acyltransferase 3、Alpha-1-acid glycoprotein 1、Anoctamin-10、Leucine-rich repeat and calponin homology domain-containing protein 4、及びVery-long-chain 3-oxoacyl-CoA reductaseからなるタンパク質群、

(C) Thioredoxin domain-containing protein 12、Bone morphogenetic protein 10、Butyrophilin subfamily 3 member A2、Mitogen-activated protein kinase kinase kinase 7、Methyltransferase-like 26、von Willebrand factor A domain-containing protein 5A、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Gamma-enolase、LHFPL tetraspan subfamily member 6 protein、FYVE、RhoGEF and PH domain-containing protein 4、Sorcin、Tetraspanin-33、Tight junction protein ZO-2、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Disintegrin and metalloproteinase domain-containing protein 10、Choline transporter-like protein 2、Probable UDP-sugar transporter protein SLC35A5、WD repeat-containing protein 11、及びCanalicular multispecific organic anion transporter 2からなるタンパク質群、

(D) Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2

、 Immunoglobulin heavy constant gamma 2、 Prelamin-A/C、 C-type lectin domain family 12 member A、 Low affinity immunoglobulin gamma Fc region receptor III-A、 Non-secretory ribonuclease、 Cartilage intermediate layer protein 1、 Galectin-10、 Resistin、 Estradiol 17-beta-dehydrogenase 11、 Bactericidal permeability-increasing protein、 Cell surface glycoprotein CD200 receptor 1、 Putative neutrophil cytosol factor 1B、 Putative neutrophil cytosol factor 1B、 Neutrophil cytosol factor 1、 Neutrophil cytosol factor 4、 Matrix metalloproteinase-25、 Heme oxygenase 2、 Urokinase plasminogen activator surface receptor、 Epoxide hydrolase 1、 Torsin-1A-interacting protein 1、 Arachidonate 5-lipoxygenase、 2'-deoxyribose 5'-phosphate N-hydrolase 1、 Amyloid-beta precursor protein、 Arachidonate 5-lipoxygenase-activating protein、 Alpha-1-acid glycoprotein 1、 Protein S100-A9、 Perilipin-1、 Protein DEK、 Protein S100-P、 ELMO domain-containing protein 2、 Microsomal glutathione S-transferase 1、 Phospholipase B-like 1、 Cytochrome b-245 heavy chain、 Merlin、 Complement factor I、 Cytochrome b-245 light chain、 Casein kinase I isoform gamma-1、 Inter-alpha-trypsin inhibitor heavy chain H1、 Long-chain-fatty-acid--CoA ligase 1、 及び Inter-alpha-trypsin inhibitor heavy chain H2からなるタンパク質群、

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(E) HLA class II histocompatibility antigen, DRB1-4 beta chain、 Gasdermin-D、 MAP/microtubule affinity-regulating kinase 3、 Thioredoxin domain-containing protein 12、 Methyltransferase-like 26、 LIM domain and actin-binding protein 1、 Serine/threonine-protein phosphatase PP1-gamma catalytic subunit、 Methionine--tRNA ligase, cytoplasmic、 Butyrophilin subfamily 3 member A2、 FYVE、 RhoGEF and PH domain-containing protein 4、 Katanin p60 ATPase-containing subunit A-like 1、 von Willebrand factor A domain-containing protein 5A、 Tight junction protein ZO-2、 Proteinase-activated receptor 1、 Gamma-enolase、 Mitogen-activated protein kinase kinase kinase 7、 Cytohesin-2、 Immunoglobulin-binding protein 1、 Armadillo repeat-containing protein 8、 Nucleolysin TIA-1 isoform p40、 Nucleolysin TIA-1 isoform p40、 Nucleolysin TIAR、 Integrin beta-3、 GMP reductase 1、 cGMP-inhibited 3',5'-cyclic phosphodiesterase A、 Coactosin-like protein、 Integrin alpha-IIb、 Protein cereblon、 PDZ and LIM domain protein 1、 Basic leucine zipper and W2 domain-containing protein 1、 LHFPL tetraspan subfamily member 6 protein、 WD repeat-containing protein 11、 Tyrosine-protein kinase BTK、 DENN domain-containing protein 4C、 N-acetyl-D-glucosamine kinase、 Cofilin-1、 Translin-associated protein X、 Choline transporter-like protein 2、 Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-11、 ADP-ribosylation factor 4、 FYN-binding protein 1、 Ubiquitin-conjugating enzyme E2 D3、 Ubiquitin-conjugating enzyme E2 D3、 Ubiquitin-conjugating enzyme E2 D2、 Caveolae-associated protein 2、 EH domain-containing protein 3、 EH domain-containing protein 1、 cAMP-dependent protein kinase type I-alpha regulatory subunit、 Synaptotagmin-like protein 4、 及び Charged multi-vesicular body protein 2aからなるタンパク質群、

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(F) Galectin-10、 Eosinophil peroxidase、 Bone marrow proteoglycan、 Arachidonate 15-lipoxygenase、 Non-secretory ribonuclease、 Immunoglobulin kappa variable 2D-29、 Immunoglobulin kappa variable 2D-29、 Immunoglobulin kappa variable 2-29、 2'-deoxyribose 5'-phosphate N-hydrolase 1、 Voltage-gated hydrogen channel 1、 Eosinophil cationic protei

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n、Cytochrome b-245 light chain、Disintegrin and metalloproteinase domain-containing protein 8、Aldehyde dehydrogenase family 3 member B 1、Cytidine deaminase、Heme oxygenase 2、Immunoglobulin heavy constant alpha 1、Metalloreductase STEAP4、Type-1 angiotensin II receptor-associated protein、Sialic acid-binding Ig-like lectin 5、Torsin-1A-interacting protein 1、Annexin A1、Estradiol 17-beta-dehydrogenase 11、Endoplasmic reticulum-Golgi intermediate compartment protein 1、Erlin-2、Anoctamin-10、及びRas-related protein Rab-27Aからなるタンパク質群、並びに

(G) Bone morphogenetic protein 10、Thioredoxin domain-containing protein 12、Intermediate conductance calcium-activated potassium channel protein 4、Probable UDP-sugar transporter protein SLC35A5、Golgi integral membrane protein 4、Protein CASC4、Putative tyrosine-protein phosphatase auxilin、Butyrophilin subfamily 3 member A2、C1GALT1-specific chaperone 1、Protein FAM234B、Tetraspanin-33、Canalicular multispecific organic anion transporter 2、Mitogen-activated protein kinase kinase 7、Type 2 phosphatidylinositol 4,5-bisphosphate 4-phosphatase、Wiskott-Aldrich syndrome protein family member 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、DAZ-associated protein 1、C-type lectin domain family 2 member L、Leucyl-cystinyl aminopeptidase、Progressive ankylosis protein homolog、Disintegrin and metalloproteinase domain-containing protein 10、Calpain-7、Choline transporter-like protein 1、LHFPL tetraspan subfamily member 6 protein、STARD3 N-terminal-like protein、Inactive rhomboid protein 2、Serine incorporator 3、Annexin A4、Cas scaffolding protein family member 4、Low-density lipoprotein receptor-related protein 10、Tetraspanin-32、von Willebrand factor A domain-containing protein 5A、Gamma-enolase、MICAL-like protein 2、Vacuolar protein sorting-associated protein 4B、Metalloreductase STEAP3、Choline transporter-like protein 2、Protein transport protein Sec24C、Bis(5'-adenosyl)-triphosphatase ENPP4、Solute carrier family 12 member 4、Solute carrier family 12 member 7、及びSolute carrier family 43 member 3からなるタンパク質群、
からなる群より選択される少なくとも1種のタンパク質の検出剤を含む、好酸球増多症又は気管支喘息の検査薬。

【請求項15】

タンパク質群(A)、タンパク質群(X)、タンパク質群(B)、タンパク質群(D)、並びにタンパク質群(F)：

(A) Galectin-10、Bone marrow proteoglycan、Eosinophil peroxidase、Non-secretory ribonuclease、及びEosinophil cationic proteinからなるタンパク質群、(X)Cholinesterase、Galectin-10、Exportin-2、Eosinophil peroxidase、Coagulation factor XII、Ficolin-3、Immunoglobulin heavy variable 4-28、Immunoglobulin heavy variable 6-1、Immunoglobulin heavy variable 7-43、Immunoglobulin heavy variable 8-61、及びImmunoglobulin heavy variable 9-49からなるタンパク質群、

(B) HLA class II histocompatibility antigen, DRB1-9 beta chain、Galectin-10、Eosinophil peroxidase、Protein mono-ADP-ribosyltransferase PARRP4、Non-secretory ribonuclease、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2-29、Immunog

lobulin heavy constant gamma 2、Cytochrome P450 4F8、C-type lectin domain family 12 member A、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-21、Short/branched chain specific acyl-CoA dehydrogenase, mitochondrial、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Prelamin-A/C、CMRF 35-like molecule 1、Eosinophil cationic protein、GDH/6PGL endoplasmic bifunctional protein、Low affinity immunoglobulin gamma Fc region receptor III-A、Urokinase plasminogen activator surface receptor、Voltage-gated hydrogen channel 1、RNA polymerase-associated protein RTF1 homolog、Cytochrome P450 4F3、Neutrophil cytosol factor 4、Activated RNA polymerase II transcriptional coactivator p15、Cell surface glycoprotein CD200 receptor 1、Major vault protein、C-type lectin domain family 5 member A、Disintegrin and metalloproteinase domain-containing protein 8、Zinc finger Ran-binding domain-containing protein 2、Myeloid cell surface antigen CD33、Heme oxygenase 2、Lysosomal acid glucosylceramidase、Cartilage intermediate layer protein 1、Sialic acid-binding Ig-like lectin 5、Arachidonate 5-lipoxygenase、Estradiol 17-beta-dehydrogenase 11、Torsin-1A、Cytochrome b-245 light chain、Lysosomal-traffic regulator、Liver carboxylesterase 1、Resistin、Immunoglobulin heavy constant alpha 1、Torsin-1A-interacting protein 1、Hexokinase-3、Cytidine deaminase、Matrix metalloproteinase-25、Aldehyde dehydrogenase family 3 member B1、Platelet basic protein、Type-1 angiotensin I receptor-associated protein、Metalloreductase STEAP4、Protein S100-P、Cytochrome b-245 heavy chain、Immunoglobulin alpha Fc receptor、Phospholipase B-like 1、Lysophosphatidylcholine acyltransferase 2、Arachidonate 5-lipoxygenase-activating protein、Coagulation factor XII、Lysophospholipid acyltransferase 7、Protein S100-A9、Protein DEK、Neutrophil defensin 1、Neutrophil defensin 1、Neutrophil defensin 3、Serum amyloid A-4 protein、Erlin-2、Leukotriene B4 receptor 1、Epoxide hydrolase 1、Microsomal glutathione S-transferase 1、Tyrosine-protein phosphatase non-receptor type substrate 1、Complement factor D、PITH domain-containing protein 1、Annexin A1、Piezo-type mechanosensitive ion channel component 1、Apolipoprotein B receptor、Protein S100-A11、Apoptosis-associated speck-like protein containing a CARD、Long-chain-fatty-acid--CoA ligase 1、Glycerol-3-phosphate acyltransferase 3、Alpha-1-acid glycoprotein 1、Anoctamin-10、Leucine-rich repeat and calponin homology domain-containing protein 4、及びVery-long-chain 3-oxoacyl-CoA reductaseからなるタンパク質群、

(D) Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin heavy constant gamma 2、Prelamin-A/C、C-type lectin domain family 12 member A、Low affinity immunoglobulin gamma Fc region receptor III-A、Non-secretory ribonuclease、Cartilage intermediate layer protein 1、Galectin-10、Resistin、Estradiol 17-beta-dehydrogenase 11、Bactericidal permeability-increasing protein、Cell surface glycoprotein CD200 receptor 1、Putative neutrophil cytosol factor 1B、Putative neutrophil cytosol factor 1B、Neutrophil cytosol factor 1、Neutrophil cytosol factor 4、Matrix metalloproteinase-25、Heme oxygenase 2、Urokinase plasminogen activator surface receptor、Epoxide hydrolase 1、Torsin-1A-interacting protein 1、Arachidonate 5-lipoxygenase、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Amyloid-beta precursor protei

n、Arachidonate 5-lipoxygenase-activating protein、Alpha-1-acid glycoprotein 1、Protein S100-A9、Perilipin-1、Protein DEK、Protein S100-P、ELMO domain-containing protein 2、Microsomal glutathione S-transferase 1、Phospholipase B-like 1、Cytochrome b-245 heavy chain、Merlin、Complement factor I、Cytochrome b-245 light chain、Casein kinase I isoform gamma-1、Inter-alpha-trypsin inhibitor heavy chain H1、Long-chain-fatty-acid--CoA ligase 1、及びInter-alpha-trypsin inhibitor heavy chain H2からなるタンパク質群、並びに

(F) Galectin-10、Eosinophil peroxidase、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Non-secretory ribonuclease、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2-29、Immunoglobulin kappa variable 2-29、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Voltage-gated hydrogen channel 1、Eosinophil cationic protein、Cytochrome b-245 light chain、Disintegrin and metalloproteinase domain-containing protein 8、Aldehyde dehydrogenase family 3 member B1、Cytidine deaminase、Heme oxygenase 2、Immunoglobulin heavy constant alpha 1、Metalloreductase STEAP4、Type-1 angiotensin II receptor-associated protein、Sialic acid-binding Ig-like lectin 5、Torsin-1A-interacting protein 1、Annexin A1、Estradiol 17-beta-dehydrogenase 11、Endoplasmic reticulum-Golgi intermediate compartment protein 1、Erlin-2、Anoctamin-10、及びRas-related protein Rab-27Aからなるタンパク質群、からなる群より選択される少なくとも1種のタンパク質の抑制剤、並びにタンパク質群(C)、タンパク質群(E)、並びにタンパク質群(G)：

(C) Thioredoxin domain-containing protein 12、Bone morphogenetic protein 10、Butyrophilin subfamily 3 member A2、Mitogen-activated protein kinase kinase kinase 7、Methyltransferase-like 26、von Willebrand factor A domain-containing protein 5A、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Gamma-enolase、LHFPL tetraspan subfamily member 6 protein、FYVE、RhoGEF and PH domain-containing protein 4、Sorcin、Tetraspanin-33、Tight junction protein ZO-2、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Disintegrin and metalloproteinase domain-containing protein 10、Choline transporter-like protein 2、Probable UDP-sugar transporter protein SLC35A5、WD repeat-containing protein 11、及びCanalicular multispecific organic anion transporter 2からなるタンパク質群、

(E) HLA class II histocompatibility antigen, DRB1-4 beta chain、Gasdermin-D、MAP/microtubule affinity-regulating kinase 3、Thioredoxin domain-containing protein 12、Methyltransferase-like 26、LIM domain and actin-binding protein 1、Serine/threonine-protein phosphatase PP1-gamma catalytic subunit、Methionine--tRNA ligase, cytoplasmic、Butyrophilin subfamily 3 member A2、FYVE、RhoGEF and PH domain-containing protein 4、Katanin p60 ATPase-containing subunit A-like 1、von Willebrand factor A domain-containing protein 5A、Tight junction protein ZO-2、Proteinase-activated receptor 1、Gamma-enolase、Mitogen-activated protein kinase kinase kinase 7、Cytohesin-2、Immunoglobulin-binding protein 1、Armadillo repeat-containing protein 8、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Integrin beta-3、GMP reductase 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Coactosin-like protein、Integrin alpha-IIb、Protein cereblon、PDZ and LIM domain protein 1、Basic leucine zipper and W2 domain-containing

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protein 1、LHFPL tetraspan subfamily member 6 protein、WD repeat-containing protein 11、Tyrosine-protein kinase BTK、DENN domain-containing protein 4C、N-acetyl-D-glucosamine kinase、Cofilin-1、Translin-associated protein X、Choline transporter-like protein 2、Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-11、ADP-ribosylation factor 4、FYN-binding protein 1、Ubiquitin-conjugating enzyme E2 D3、Ubiquitin-conjugating enzyme E2 D3、Ubiquitin-conjugating enzyme E2 D2、Caveolae-associated protein 2、EH domain-containing protein 3、EH domain-containing protein 1、cAMP-dependent protein kinase type I-alpha regulatory subunit、Synaptotagmin-like protein 4、及びCharged multi vesicular body protein 2aからなるタンパク質群、並びに

(G) Bone morphogenetic protein 10、Thioredoxin domain-containing protein 12、Intermediate conductance calcium-activated potassium channel protein 4、Probable UDP-sugar transporter protein SLC35A5、Golgi integral membrane protein 4、Protein CASC4、Putative tyrosine-protein phosphatase auxilin、Butyrophilin subfamily 3 member A2、C1GALT1-specific chaperone 1、Protein FAM234B、Tetraspanin-33、Canalicular multispecific organic anion transporter 2、Mitogen-activated protein kinase kinase 7、Type 2 phosphatidylinositol 4,5-bisphosphate 4-phosphatase、Wiskott-Aldrich syndrome protein family member 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、DAZ-associated protein 1、C-type lectin domain family 2 member L、Leucyl-cystinyl aminopeptidase、Progressive ankylosis protein homolog、Disintegrin and metalloproteinase domain-containing protein 10、Calpain-7、Choline transporter-like protein 1、LHFPL tetraspan subfamily member 6 protein、STARD3 N-terminal-like protein、Inactive rhomboid protein 2、Serine incorporator 3、Annexin A4、Cas scaffolding protein family member 4、Low-density lipoprotein receptor-related protein 10、Tetraspanin-32、von Willebrand factor A domain-containing protein 5A、Gamma-enolase、MICAL-like protein 2、Vacuolar protein sorting-associated protein 4B、Metalloreductase STEAP3、Choline transporter-like protein 2、Protein transport protein Sec24C、Bis(5'-adenosyl)-triphosphatase ENPP4、Solute carrier family 12 member 4、Solute carrier family 12 member 7、及びSolute carrier family 43 member 3からなるタンパク質群、

からなる群より選択される少なくとも1種のタンパク質の亢進剤

からなる群より選択される少なくとも1種の薬剤を含有する、好酸球増多症又は気管支喘息の予防又は治療剤。

【請求項16】

被検物質で処理された動物から採取された体液の細胞外小胞又は体液における、タンパク質群(A)、タンパク質群(X)、タンパク質群(B)、タンパク質群(C)、タンパク質群(D)、タンパク質群(E)、タンパク質群(F)、並びにタンパク質群(G)：

(A) Galectin-10、Bone marrow proteoglycan、Eosinophil peroxidase、Non-secretory ribonuclease、及びEosinophil cationic proteinからなるタンパク質群、(X)Cholinesterase、Galectin-10、Exportin-2、Eosinophil peroxidase、Coagulation factor XII、Ficolin-3、Immunoglobulin heavy variable 4-28、Immunoglobulin heavy variable 6-1、Immunoglobulin heavy variable 7-43、Immunoglobulin heavy variable 8-61、及びImmunoglobulin heavy variable 9-49からなるタンパク質群、

(B) HLA class II histocompatibility antigen, DRB1-9 beta chain、Galectin-10、Eosinophil peroxidase、Protein mono-ADP-ribosyltransferase PA

RP4、Non-secretory ribonuclease、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2-29、Immunoglobulin heavy constant gamma 2、Cytochrome P450 4F8、C-type lectin domain family 12 member A、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-21、Short/branched chain specific acyl-CoA dehydrogenase, mitochondrial、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Prelamin-A/C、CMRF 35-like molecule 1、Eosinophil cationic protein、GDH/6PGL endoplasmic bifunctional protein、Low affinity immunoglobulin gamma Fc region receptor III-A、Urokinase plasminogen activator surface receptor、Voltage-gated hydrogen channel 1、RNA polymerase-associated protein RTF1 homolog、Cytochrome P450 4F3、Neutrophil cytosol factor 4、Activated RNA polymerase II transcriptional coactivator p15、Cell surface glycoprotein CD200 receptor 1、Major vault protein、C-type lectin domain family 5 member A、Disintegrin and metalloproteinase domain-containing protein 8、Zinc finger Ran-binding domain-containing protein 2、Myeloid cell surface antigen CD33、Heme oxygenase 2、Lysosomal acid glucosylceramidase、Cartilage intermediate layer protein 1、Sialic acid-binding Ig-like lectin 5、Arachidonate 5-lipoxygenase、Estradiol 17-beta-dehydrogenase 11、Torsin-1A、Cytochrome b-245 light chain、Lysosomal-traffic regulator、Liver carboxylesterase 1、Resistin、Immunoglobulin heavy constant alpha 1、Torsin-1A-interacting protein 1、Hexokinase-3、Cytidine deaminase、Matrix metalloproteinase-25、Aldehyde dehydrogenase family 3 member B1、Platelet basic protein、Type-1 angiotensin I receptor-associated protein、Metalloreductase STEAP4、Protein S100-P、Cytochrome b-245 heavy chain、Immunoglobulin alpha Fc receptor、Phospholipase B-like 1、Lysophosphatidylcholine acyltransferase 2、Arachidonate 5-lipoxygenase-activating protein、Coagulation factor XII、Lysophospholipid acyltransferase 7、Protein S100-A9、Protein DEK、Neutrophil defensin 1、Neutrophil defensin 1、Neutrophil defensin 3、Serum amyloid A-4 protein、Erlin-2、Leukotriene B4 receptor 1、Epoxide hydrolase 1、Microsomal glutathione S-transferase 1、Tyrosine-protein phosphatase non-receptor type substrate 1、Complement factor D、PITH domain-containing protein 1、Annexin A1、Piezo-type mechanosensitive ion channel component 1、Apolipoprotein B receptor、Protein S100-A11、Apoptosis-associated speck-like protein containing a CARD、Long-chain-fatty-acid--CoA ligase 1、Glycerol-3-phosphate acyltransferase 3、Alpha-1-acid glycoprotein 1、Anoctamin-10、Leucine-rich repeat and calponin homology domain-containing protein 4、及びVery-long-chain 3-oxoacyl-CoA reductaseからなるタンパク質群、

(C) Thioredoxin domain-containing protein 12、Bone morphogenetic protein 10、Butyrophilin subfamily 3 member A2、Mitogen-activated protein kinase kinase kinase 7、Methyltransferase-like 26、von Willebrand factor A domain-containing protein 5A、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Gamma-enolase、LHFPL tetraspan subfamily member 6 protein、FYVE、RhoGEF and PH domain-containing protein 4、Sorcin、Tetraspanin-33、Tight junction protein ZO-2、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Disintegrin and

metalloproteinase domain-containing protein 10、Choline transporter-like protein 2、Probable UDP-sugar transporter protein SLC35A5、WD repeat-containing protein 11、及びCanalicular multispecific organic anion transporter 2からなるタンパク質群、

(D) Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin heavy constant gamma 2、Prelamin-A/C、C-type lectin domain family 12 member A、Low affinity immunoglobulin gamma Fc region receptor III-A、Non-secretory ribonuclease、Cartilage intermediate layer protein 1、Galectin-10、Resistin、Estradiol 17-beta-dehydrogenase 11、Bactericidal permeability-increasing protein、Cell surface glycoprotein CD200 receptor 1、Putative neutrophil cytosol factor 1B、Putative neutrophil cytosol factor 1B、Neutrophil cytosol factor 1、Neutrophil cytosol factor 4、Matrix metalloproteinase-25、Heme oxygenase 2、Urokinase plasminogen activator surface receptor、Epoxide hydrolase 1、Torsin-1A-interacting protein 1、Arachidonate 5-lipoxygenase、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Amyloid-beta precursor protein、Arachidonate 5-lipoxygenase-activating protein、Alpha-1-acid glycoprotein 1、Protein S100-A9、Perilipin-1、Protein DEK、Protein S100-P、ELMO domain-containing protein 2、Microsomal glutathione S-transferase 1、Phospholipase B-like 1、Cytochrome b-245 heavy chain、Merlin、Complement factor I、Cytochrome b-245 light chain、Casein kinase I isoform gamma-1、Inter-alpha-trypsin inhibitor heavy chain H1、Long-chain-fatty-acid--CoA ligase 1、及びInter-alpha-trypsin inhibitor heavy chain H2からなるタンパク質群、

(E) HLA class II histocompatibility antigen, DRB1-4 beta chain、Gasdermin-D、MAP/microtubule affinity-regulating kinase 3、Thioredoxin domain-containing protein 12、Methyltransferase-like 26、LIM domain and actin-binding protein 1、Serine/threonine-protein phosphatase PP1-gamma catalytic subunit、Methionine--tRNA ligase, cytoplasmic、Butyrophilin subfamily 3 member A2、FYVE、RhoGEF and PH domain-containing protein 4、Katanin p60 ATPase-containing subunit A-like 1、von Willebrand factor A domain-containing protein 5A、Tight junction protein ZO-2、Proteinase-activated receptor 1、Gamma-enolase、Mitogen-activated protein kinase kinase kinase 7、Cytohesin-2、Immunoglobulin-binding protein 1、Armadillo repeat-containing protein 8、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Integrin beta-3、GMP reductase 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Coactosin-like protein、Integrin alpha-IIb、Protein cereblon、PDZ and LIM domain protein 1、Basic leucine zipper and W2 domain-containing protein 1、LHFPL tetraspan subfamily member 6 protein、WD repeat-containing protein 11、Tyrosine-protein kinase BTK、DENN domain-containing protein 4C、N-acetyl-D-glucosamine kinase、Cofilin-1、Translin-associated protein X、Choline transporter-like protein 2、Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-11、ADP-ribosylation factor 4、FYN-binding protein 1、Ubiquitin-conjugating enzyme E2 D3、Ubiquitin-conjugating enzyme E2 D3、Ubiquitin-conjugating enzyme E2 D2、Caveolae-associated protein 2、EH domain-containing protein 3、EH domain-containing protein 1、cAMP-dependent protein kinase type I-alpha regulatory subunit、Synaptotagmin-like protein 4、及びCharged multivesicular body protein 2aからなるタンパク質群、

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(F) Galectin-10、Eosinophil peroxidase、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Non-secretory ribonuclease、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2-29、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Voltage-gated hydrogen channel 1、Eosinophil cationic protein、Cytochrome b-245 light chain、Disintegrin and metalloproteinase domain-containing protein 8、Aldehyde dehydrogenase family 3 member B1、Cytidine deaminase、Heme oxygenase 2、Immunoglobulin heavy constant alpha 1、Metalloreductase STEAP4、Type-1 angiotensin II receptor-associated protein、Sialic acid-binding Ig-like lectin 5、Torsin-1A-interacting protein 1、Annexin A1、Estradiol 17-beta-dehydrogenase 11、Endoplasmic reticulum-Golgi intermediate compartment protein 1、Erlin-2、Anoctamin-10、及びRas-related protein Rab-27Aからなるタンパク質群、並びに

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(G) Bone morphogenetic protein 10、Thioredoxin domain-containing protein 12、Intermediate conductance calcium-activated potassium channel protein 4、Probable UDP-sugar transporter protein SLC35A5、Golgi integral membrane protein 4、Protein CASC4、Putative tyrosine-protein phosphatase auxilin、Butyrophilin subfamily 3 member A2、C1GALT1-specific chaperone 1、Protein FAM234B、Tetraspanin-33、Canalicular multispecific organic anion transporter 2、Mitogen-activated protein kinase kinase 7、Type 2 phosphatidylinositol 4,5-bisphosphate 4-phosphatase、Wiskott-Aldrich syndrome protein family member 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、DAZ-associated protein 1、C-type lectin domain family 2 member L、Leucyl-cystinyl aminopeptidase、Progressive ankylosis protein homolog、Disintegrin and metalloproteinase domain-containing protein 10、Calpain-7、Choline transporter-like protein 1、LHFPL tetraspan subfamily member 6 protein、STARD3 N-terminal-like protein、Inactive rhomboid protein 2、Serine incorporator 3、Annexin A4、Cas scaffolding protein family member 4、Low-density lipoprotein receptor-related protein 10、Tetraspanin-32、von Willebrand factor A domain-containing protein 5A、Gamma-enolase、MICAL-like protein 2、Vacuolar protein sorting-associated protein 4B、Metalloreductase STEAP3、Choline transporter-like protein 2、Protein transport protein Sec24C、Bis(5'-adenosyl)-triphosphatase ENPP4、Solute carrier family 12 member 4、Solute carrier family 12 member 7、及びSolute carrier family 43 member 3からなるタンパク質群、

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からなる群より選択される少なくとも1種のタンパク質の量又は濃度を指標とする、好酸球増多症又は気管支喘息の予防又は治療剤の有効成分のスクリーニング方法。

【請求項17】

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被検物質で処理された動物から採取された体液の細胞外小胞又は体液における、タンパク質群(A)、タンパク質群(B)、タンパク質群(X)、タンパク質群(C)、タンパク質群(D)、タンパク質群(E)、タンパク質群(F)、並びにタンパク質群(G)：

(A) Galectin-10、Bone marrow proteoglycan、Eosinophil peroxidase、Non-secretory ribonuclease、及びEosinophil cationic proteinからなるタンパク質群、(X)Cholinesterase、Galectin-10、Exportin-2、Eosinophil peroxidase、Coagulation factor XII、Ficolin-3、Immunoglobulin heavy variable 4-28、Immunoglobulin heavy variable 6-1、Immunoglobulin heavy variable 7-43、Immunoglobulin heavy variable 8-61、及びImmunoglobulin heavy variable 9-49からなるタンパク質群、

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(B) HLA class II histocompatibility antigen, DRB1-9 beta chain、Galectin-10、Eosinophil peroxidase、Protein mono-ADP-ribosyltransferase PARRP4、Non-secretory ribonuclease、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2-29、Immunoglobulin heavy constant gamma 2、Cytochrome P450 4F8、C-type lectin domain family 12 member A、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-9、Immunoglobulin lambda variable 3-21、Short/branched chain specific acyl-CoA dehydrogenase, mitochondrial、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Prelamin-A/C、CMRF35-like molecule 1、Eosinophil cationic protein、GDH/6PGL endoplasmic bifunctional protein、Low affinity immunoglobulin gamma Fc region receptor III-A、Urokinase plasminogen activator surface receptor、Voltage-gated hydrogen channel 1、RNA polymerase-associated protein RTF1 homolog、Cytochrome P450 4F3、Neutrophil cytosol factor 4、Activated RNA polymerase II transcriptional coactivator p15、Cell surface glycoprotein CD200 receptor 1、Major vault protein、C-type lectin domain family 5 member A、Disintegrin and metalloproteinase domain-containing protein 8、Zinc finger Ran-binding domain-containing protein 2、Myeloid cell surface antigen CD33、Heme oxygenase 2、Lysosomal acid glucosylceramidase、Cartilage intermediate layer protein 1、Sialic acid-binding Ig-like lectin 5、Arachidonate 5-lipoxygenase、Estradiol 17-beta-dehydrogenase 11、Torsin-1A、Cytochrome b-245 light chain、Lysosomal-traffic regulator、Liver carboxylesterase 1、Resistin、Immunoglobulin heavy constant alpha 1、Torsin-1A-interacting protein 1、Hexokinase-3、Cytidine deaminase、Matrix metalloproteinase-25、Aldehyde dehydrogenase family 3 member B1、Platelet basic protein、Type-1 angiotensin II receptor-associated protein、Metalloreductase STEAP4、Protein S100-P、Cytochrome b-245 heavy chain、Immunoglobulin alpha Fc receptor、Phospholipase B-like 1、Lysophosphatidylcholine acyltransferase 2、Arachidonate 5-lipoxygenase-activating protein、Coagulation factor XII、Lysophospholipid acyltransferase 7、Protein S100-A9、Protein DEK、Neutrophil defensin 1、Neutrophil defensin 1、Neutrophil defensin 3、Serum amyloid A-4 protein、Erlin-2、Leukotriene B4 receptor 1、Epoxide hydrolase 1、Microsomal glutathione S-transferase 1、Tyrosine-protein phosphatase non-receptor type substrate 1、Complement factor D、PITH domain-containing protein 1、Annexin A1、Piezo-type mechanosensitive ion channel component 1、Apolipoprotein B receptor、Protein S100-A11、Apoptosis-associated speck-like protein containing a CARD、Long-chain-fatty-acid--CoA ligase 1、Glycerol-3-phosphate acyltransferase 3、Alpha-1-acid glycoprotein 1、Anoctamin-10、Leucine-rich repeat and calponin homology domain-containing protein 4、及びVery-long-chain 3-oxoacyl-CoA reductaseからなるタンパク質群、

(C) Thioredoxin domain-containing protein 12、Bone morphogenetic protein 10、Butyrophilin subfamily 3 member A2、Mitogen-activated protein kinase kinase kinase 7、Methyltransferase-like 26、von Willebrand factor A domain-containing protein 5A、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Gamma-enolase、LHFPL tetraspan subfamily member 6 protein、FYVE、RhoGEF and PH domain-containing protein 4、Sorcin、Te

traspanin-33、Tight junction protein ZO-2、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Disintegrin and metalloproteinase domain-containing protein 10、Choline transporter-like protein 2、Probable UDP-sugar transporter protein SLC35A5、WD repeat-containing protein 11、及びCanalicular multispecific organic anion transporter 2からなるタンパク質群、

(D) Putative inactive carboxylesterase 4、Neutrophil cytosol factor 2、Immunoglobulin heavy constant gamma 2、Prelamin-A/C、C-type lectin domain family 12 member A、Low affinity immunoglobulin gamma Fc region receptor III-A、Non-secretory ribonuclease、Cartilage intermediate layer protein 1、Galectin-10、Resistin、Estradiol 17-beta-dehydrogenase 11、Bactericidal permeability-increasing protein、Cell surface glycoprotein CD200 receptor 1、Putative neutrophil cytosol factor 1B、Putative neutrophil cytosol factor 1B、Neutrophil cytosol factor 1、Neutrophil cytosol factor 4、Matrix metalloproteinase-25、Heme oxygenase 2、Urokinase plasminogen activator surface receptor、Epoxide hydrolase 1、Torsin-1A-interacting protein 1、Arachidonate 5-lipoxygenase、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Amyloid-beta precursor protein、Arachidonate 5-lipoxygenase-activating protein、Alpha-1-acid glycoprotein 1、Protein S100-A9、Perilipin-1、Protein DEK、Protein S100-P、ELMO domain-containing protein 2、Microsomal glutathione S-transferase 1、Phospholipase B-like 1、Cytochrome b-245 heavy chain、Merlin、Complement factor I、Cytochrome b-245 light chain、Casein kinase I isoform gamma-1、Inter-alpha-trypsin inhibitor heavy chain H1、Long-chain-fatty-acid--CoA ligase 1、及びInter-alpha-trypsin inhibitor heavy chain H2からなるタンパク質群、

(E) HLA class II histocompatibility antigen, DRB1-4 beta chain、Gasdermin-D、MAP/microtubule affinity-regulating kinase 3、Thioredoxin domain-containing protein 12、Methyltransferase-like 26、LIM domain and actin-binding protein 1、Serine/threonine-protein phosphatase PP1-gamma catalytic subunit、Methionine--tRNA ligase, cytoplasmic、Butyrophilin subfamily 3 member A2、FYVE、RhoGEF and PH domain-containing protein 4、Katanin p60 ATPase-containing subunit A-like 1、von Willebrand factor A domain-containing protein 5A、Tight junction protein ZO-2、Proteinase-activated receptor 1、Gamma-enolase、Mitogen-activated protein kinase kinase kinase 7、Cytohesin-2、Immunoglobulin-binding protein 1、Armadillo repeat-containing protein 8、Nucleolysin TIA-1 isoform p40、Nucleolysin TIA-1 isoform p40、Nucleolysin TIAR、Integrin beta-3、GMP reductase 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、Coactosin-like protein、Integrin alpha-IIb、Protein cereblon、PDZ and LIM domain protein 1、Basic leucine zipper and W2 domain-containing protein 1、LHFPL tetraspan subfamily member 6 protein、WD repeat-containing protein 11、Tyrosine-protein kinase BTK、DENN domain-containing protein 4C、N-acetyl-D-glucosamine kinase、Cofilin-1、Translin-associated protein X、Choline transporter-like protein 2、Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-11、ADP-ribosylation factor 4、FYN-binding protein 1、Ubiquitin-conjugating enzyme E2 D3、Ubiquitin-conjugating enzyme E2 D3、Ubiquitin-conjugating enzyme E2 D2、Caveolae-associated protein 2、EH domain-containing protein 3、EH domain-containing protein 1、cAMP-dependent protein kinase type I- α

ha regulatory subunit, Synaptotagmin-like protein 4、及びCharged multi vesicular body protein 2aからなるタンパク質群、

(F) Galectin-10、Eosinophil peroxidase、Bone marrow proteoglycan、Arachidonate 15-lipoxygenase、Non-secretory ribonuclease、Immunoglobulin kappa variable 2D-29、Immunoglobulin kappa variable 2-29、2'-deoxynucleoside 5'-phosphate N-hydrolase 1、Voltage-gated hydrogen channel 1、Eosinophil cationic protein、Cytochrome b-245 light chain、Disintegrin and metalloproteinase domain-containing protein 8、Aldehyde dehydrogenase family 3 member B1、Cytidine deaminase、Heme oxygenase 2、Immunoglobulin heavy constant alpha 1、Metalloreductase STEAP4、Type-1 angiotensin II receptor-associated protein、Sialic acid-binding Ig-like lectin 5、Torsin-1A-interacting protein 1、Annexin A1、Estradiol 17-beta-dehydrogenase 11、Endoplasmic reticulum-Golgi intermediate compartment protein 1、Erlin-2、Anoctamin-10、及びRas-related protein Rab-27Aからなるタンパク質群、並びに

(G) Bone morphogenetic protein 10、Thioredoxin domain-containing protein 12、Intermediate conductance calcium-activated potassium channel protein 4、Probable UDP-sugar transporter protein SLC35A5、Golgi integral membrane protein 4、Protein CASC4、Putative tyrosine-protein phosphatase auxilin、Butyrophilin subfamily 3 member A2、C1GALT1-specific chaperone 1、Protein FAM234B、Tetraspanin-33、Canalicular multispecific organic anion transporter 2、Mitogen-activated protein kinase kinase 7、Type 2 phosphatidylinositol 4,5-bisphosphate 4-phosphatase、Wiskott-Aldrich syndrome protein family member 1、cGMP-inhibited 3',5'-cyclic phosphodiesterase A、DAZ-associated protein 1、C-type lectin domain family 2 member L、Leucyl-cystinyl aminopeptidase、Progressive ankylosis protein homolog、Disintegrin and metalloproteinase domain-containing protein 10、Calpain-7、Choline transporter-like protein 1、LHFPL tetraspan subfamily member 6 protein、STARD3 N-terminal-like protein、Inactive rhomboid protein 2、Serine incorporator 3、Annexin A4、Cas scaffolding protein family member 4、Low-density lipoprotein receptor-related protein 10、Tetraspanin-32、von Willebrand factor A domain-containing protein 5A、Gamma-enolase、MICAL-like protein 2、Vacuolar protein sorting-associated protein 4B、Metalloreductase STEAP3、Choline transporter-like protein 2、Protein transport protein Sec24C、Bis(5'-adenosyl)-triphosphatase ENPP4、Solute carrier family 12 member 4、Solute carrier family 12 member 7、及びSolute carrier family 43 member 3からなるタンパク質群、

からなる群より選択される少なくとも1種のタンパク質の量又は濃度を指標とする、好酸球増多症又は気管支喘息の誘発性又は増悪性の評価方法。

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