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(54) Title: THERAPEUTIC METHODS USING ERYTHROCYTES

(57) Abstract: The present disclosure relates to methods for modulating the level of proteins in a subject or in target cells by priming red blood cells with various agents or conditions that modulate the levels of proteins associated with red blood cells and administering the primed red blood cells to a subject. The disclosed methods represent a novel use of red blood cells primed to express a number of proteins, as cell therapies for numerous diseases or disorders.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
<b>A61K 35/18 (2015.01) A61P 35/00 (2006.01) A61P 37/00 (2006.01) A61K 48/00 (2006.01) C12N 5/00 (2006.01) G01N 33/50 (2006.01) G01N 35/00 (2006.01)</b>		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
Esp@cenet, Pubmed, PatentScope, AusPat and internal databases provided by IP Australia: Applicant, inventor and keyword search.		
PATENW, CAplus, BIOSIS, EMBASE, MEDLINE: Keyword search: Red blood cell, prime, shear stress, hypoxia, hyperoxia, A61K35/18, anticoagulant, heparin, EDTA, citrate, migration inhibitory factor, mesenchymal stem cells, BIO PLEX Pro, EOTAXIN, CTACK, GRO-ALPHA, FGF, GCSF, GMCSF, HGF, IL12-P40, IFN, IL1, IL2, IL2R, IL3, IL4, IL5, IL6, IL7, IL8, IL9, IL10, IL12, IL13, IL15, IL16, IL17, IL18, IP10, LIF, MCP1, MCSF, MIG, NGF, PDGF-BB, RANTES, SDF1-ALPHA, TNF, TRAIL, VEGF, SCGF, cytokine, growth factor, receptor, hormone, enzyme, C reactive protein, protease inhibitor, RNA stabiliser, HUVEC, HEK-293, HT-29, MEWO, Jurkat, MCF-7, A549, cell line, cancer cell, and related terms.		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Documents are listed in the continuation of Box C	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
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"P"	document published prior to the international filing date but later than the priority date claimed	
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<b>Name and mailing address of the ISA/AU</b>  AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaustalia.gov.au		<b>Authorised officer</b>  Teresa Sutherland AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. +61262833174

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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	WO 2013139906 A1 (ERYTECH PHARMA) 26 September 2013 abstract, page 5 lines 22-29, page 8 line 5-page 11 line 14; examples 1-3, 6-10	1, 2, 4, 6, 7, 18-21
X	WO 2013045885 A1 (ST GEORGE'S HOSPITAL MEDICAL SCHOOL) 04 April 2013 Abstract, figures 1, 3, 7, 9, 17-19	1-4, 6, 7, 18-20
X	WO 2009019317 A1 (ERYTECH PHARMA) 12 February 2009 Page 5 lines 1-31, page 11 line – page 12 line 25, page 14 line 20- page 15 line 1, figures 1 and 2, examples 5-7, 13, 14	1, 3, 4, 6-8, 9-13, 16, 17, 18-21
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Information on patent family members

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This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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