



SCOTTISH NATIONAL BLOOD TRANSFUSION SERVICE

**PUBLICATIONS AND R&D GRANTS:
2008/2009**

SNBTS PUBLICATIONS

SNBTS PUBLICATIONS

- Aldhous, M. C., Prescott, R. J., Roberts, S., Samuel, K., Waterfall, M., and Satsangi, J. Does nicotine influence cytokine profile and subsequent cell cycling/apoptotic responses in inflammatory bowel disease? *Inflamm Bowel Dis.* 2008; 14: 1469-1482.
- Appleford NE, Wilson K, Houston F, Bruce LJ, Morrison A, Bishop M, Chalmers K, Miele G, Massey E, Prowse C, Manson J, Will RG, Clinton M, MacGregor I, Anstee DJ. alpha-Hemoglobin stabilizing protein is not a suitable marker for a screening test for variant Creutzfeldt-Jakob disease. *Transfusion.* 2008; 48: 1616-26.
- Barbara JAJ, Dow BC. Retroviruses and other viruses. Chapter 47 in "Rossi's Principles of Transfusion medicine, 4th edition.", editors Simon TL, Snyder EL, Solheim BG, Stowell CP, Strauss RG, Petrides M. publishers Blackwell Publishing. 2009. pp746-759.
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- Bessos H, Fraser R, Seghatchian J. What's Happening? *Scotblood* 2008 celebrates 60th anniversary of the NHS through past, present, and future of transfusion medicine, encompassing Hepatitis C Scottish Odyssey, nursing, translational medicine and trauma. *Transfusion and Apheresis Science.* 2008; 39: 261-268
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- Bessos H, Killie MK, Seghatchian J, Skogen B, Urbaniak SJ. What's Happening - The Relationship of Anti-HPA-1a Amount to Severity of Neonatal Alloimmune Thrombocytopenia - Where Does it Stand? *Transfus Apher Sci.* 2009; 40: 75-8
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- Clark P, Wu O. ABO(H) blood groups and pre-eclampsia. A systematic review and meta-analysis. *Thromb. Haemost.* 2008; 100(3): 469-74
- Clark P. Maternal venous thrombosis. *Eur J Obstet Gynecol Reprod Biol.* 2008;
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- Dow BC. Syphilis. Annexe to Chapter 7 in "Transfusion Microbiology", editors Barbara JAJ, Regan FAM, Contreras MC; publishers Cambridge University Press.. 2008. pp110-111.
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Prowse C. Properties of pathogen-inactivated plasma components. *Transfusion Medicine Reviews.* 2009; 23(2): 124-133

Prowse C: Credit Accumulation and Transfer (CAT) & MSc Courses in Transfusion & Transplantation. BBTS Bloodlines Spring 2008

Prowse C. Blood Substitutes: Where are we now? *Blood Matters* (autumn 2008) 26: 21-24.

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Slight RD, Lux D, Nzewi OC, McClelland DB, Mankad PS. Oxygen delivery and hemoglobin concentration in cardiac surgery: when do we have enough? *Artif Organs.* 2008 Dec;32(12):949-55

Slight RD, Alston RP, McClelland DB, Mankad PS. What factors should we consider in deciding when to transfuse patients undergoing elective cardiac surgery? *Transfus Med Rev.* 2009 Jan;23(1):42-54

Slight RD, Nzewi O, McClelland DB, Mankad PS. Red cell transfusion in elective cardiac surgery patients: where do we go from here? *Br J Anaesth.* 2009 Mar;102(3):294-296

Slight RD, Ferguson R, Stirling D, McClelland DB, Mankad PS. Experience with sodium fluorescein flow cytometry in the determination of red cell volume *Int J Lab Hematol.* 2009 Apr;31(2):233-5

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- Turner ML. Transfusion Reactions. Chapter 75. In: Strachan MWJ, Sharma SK, Hunter JAA (eds). *Davidson's International Clinical Cases in Medicine*. Churchill Livingstone, Elsevier. Edinburgh 2008.
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- Turner ML, Ludlam CA. An Update on the Assessment and Management of the Risk of Transmission of variant Creutzfeldt-Jakob Disease by Blood and Plasma Products. *Br J Haematol*. 2009;144:14-23.
- Urbaniak, SJ. Why RHD is so immunogenic – and therefore important – and how we develop immune responses to blood cells. *Blood Matters*. 2008; Issue 26: 16-17
- Urbaniak, SJ. Alloimmunization to the platelet antigen human platelet antigen-1a and characterization of the helper T-cell responses in Fetomaternal Alloimmune Thrombocytopenia. *ISBT Science Series* 2009 (*Vox Sanquinis*) 4; 107-110

In press:

- Anani Sarab G, Moss M, Barker RN., Urbaniak, SJ. Naturally processed peptides spanning the HPA-1a polymorphism are efficiently generated and displayed from platelet glycoprotein HLA-DRB3*0101 – positive antigen-producing cells. *Blood* (2009) –prepublished online 3 June 2009; DOI 10.1182/blood-2009-04-211839
- Hornsey VS, Drummond O, Morrison A, McMillan L, MacGregor IR, Prowse CV. Pathogen reduction of fresh plasma using riboflavin and UV light: effects on plasma coagulation proteins. *Transfusion* 2009: in press
- Jones M, Wight D Barron R, Jeffrey M, Prowse C, Ironside Jw, Head Mw. Modelling the Molecular Component of Prion Transmission to Humans. *Emerging Infectious Diseases*: in press 2009
- Joseph BG, Hendry C, Walsh TS. Red blood cell use outside the operating theater: a prospective observational study with modeling of potential blood conservation during severe blood shortages. *Transfusion*. 2009 Jun 4. Epub ahead of print
- Mills, N. L., Tura, O., Padfield, G. J., Millar, C., Lang, N. N., Stirling, D., Ludlam, C., Turner, M., Barclay, G. R., and Newby, D. E. (2009) Dissociation of Phenotypic and Functional Endothelial Progenitor Cells in Patients Undergoing Percutaneous Coronary Intervention. *Heart* (in press, pre-published on-line)
- Spence A, Townsend E, Prowse C, Palmer P, Fleming P, Joost A. Van Hilten, Ferguson E. A Multi-Level Analysis of the Stability of the Information Source-Trust Association for Blood Transfusion. *Transfusion* 2009: Apr 20. [Epub ahead of print]
- Vanhoutte VJ, McAulay KA, Turner M, Crawford DH, Haque T. Cytolytic Mechanisms and T Cell Receptor V β Usage by Ex Vivo Generated EBV-Specific Cytotoxic T Lymphocytes. *Immunology* (in press).
- Walsh TS, Maciver CR A clinical scenario-based survey of transfusion decisions for intensive care patients with delayed weaning from mechanical ventilation. *Transfusion* 2009, in press

SNBTS ACTIVE GRANTS

Wellcome Trust

Turner ML, Crawford D, Haque T, Vickers MA, Forsythe J. Establishment of a bank of EBV specific cytotoxic T cells for clinical treatment of post-transplant lympho-proliferative disease. £431,069. April 2009 – Sept 2011.

Turner ML, Mountford J, Forrester L, De Sousa P, Anstee D, Courtney A, Murphy W. Proof of principle: human embryonic stem cell derived red cell concentrates for clinical transfusion. £2,745,549 April 2009 – March 2012 (BloodPharma)

Scottish Funding Council

Wilmut I, Turner M, Illius A, Savill J. Strategic Development Grant for Centre of Regenerative Medicine. £2,030,000 (August 2006 to July 2010)

UK Stem Cell Foundation

Noble B. Autologous stem cell based therapies in musculoskeletal regenerative medicine. UK Stem Cell Foundation / Medical Research Council/ Scottish Enterprise / Chief Scientist's Office £1,400,000 May 2008 – May 2010.

Dhillon B, Ramesh K, Turner ML. Ex vivo expanded corneal limbal stem cell transplantation: from laboratory to clinical application. UK Stem Cell Foundation, Scottish Enterprise and Chief Scientists Office. £307,820. Jan 2009 – Dec 2011

Translational Medicine Research Collaboration

Newby DE, Burdess A, Richards J, Lang N, Roddie H, McKillop G, Wardlaw J, Turner M, Hart S, Barclay R, Chalmers R, Simpson J, Dhaliwal K, Marshall I, Bastin M. Magnetic resonance imaging of human atherosclerosis. Translational Medicine Research Collaboration £566,995. June 2007 – August 2009

Sir Jules Thorn Charitable Trust

Forbes SJ, Iredale J, Hayes P, Kluth D, Turner ML, Bellamy C, Marshall I. Stem cell therapy for liver cirrhosis. £999,565. Oct 2007 – Sept 2012

Medical Research Council

Holyoake TL, Brunton V, Koschmieder S. Is Bcr-Abl expression relevant for the survival of cancer stem cells in chronic myeloid leukaemia? £680,000. (June 2007 – May 2010)

European Union

SJ Urbaniak, SS Armstrong-Fisher, M Moss. Special non-invasive advances in fetal and neonatal evaluation network (SAFE). £113,195 (current share of 12 million euro) SAFE Fellow & PhD student. EU (Network of Excellence) (2004-2009)

Franklin IM, Hart M, Arthur E, McClelland DBL, Pirie E The EU optimal blood use project. 890,285 Euros ?500,000 (56.16% EC funded) (3 years 2007-2010)

Leukaemia Research Fund

Holyoake TL, Brunton V, Koschmieder S. Is Bcr-Abl expression relevant for the survival of cancer stem cells in chronic myeloid leukaemia? £28,221. (3 years January 2007 – December 2009)

Holyoake TL, Bartholomew C, Strathdee G, Melo J. EVII isoform expression and knockdown in CML. Leukaemia Research Fund. £45,000. April 2008 – March 2011.

Biotechnology and Biological Sciences Research Council

De Sousa P, Turner ML, Pells S. A novel characterisation and separation technique for pluripotent human embryonic and haematopoietic stem cells. BBSRC £131,765. Jan 2009 – Dec 2012.

British Heart Foundation

Barclay GR, Hadoke P, Mills N, Newby DE, Turner ML. Preclinical in vivo evaluation of potential sources of human endothelial progenitor cells for autograft cellular therapy of ischaemia. £239,930 (3 years July 2006 to June 2009 - *extended to end June 2010 (i.e. 4 years total) because of 2 sets of maternity leave by O Tura*).

Mills NL, Newby DE, Barclay GR, de Belder MA, Robinson SD. Endothelial progenitor cells in acute vascular injury and repair. £242,685 (August 2007-July 2010) Mountford J. Generation of cardiomyocytes from mesenchymal stem cells derived from adult human sternal bone marrow. (as Principal Investigator for Clinical Research Fellow funding) £149,478 (3 years from January 2005-December 2008)

Chief Scientists Office

De Sousa P, Head MW, Turner ML, Manson J. Proof of principle validation of a human embryo cell based screen for susceptibility to infectious prion transmission. £125,438. (August 2007 – December 2008).

Head MW, Peden A, Prowse C, Manson J, Bishop M, Ironside J. The use of human recombinant prion protein as a substrate in an improved in vitro amplification- based blood test for Creutzfeldt-Jakob disease infectivity £193,512 over 2 years to December 2010 (£90,000pa)

Holyoake T, Copland MC. Consumables £24,000. (3 years June 2006 - May 2009). De Sousa P, Head M, Turner M, Manson J. Proof of principle demonstration of human embryo stem cell based detection of prions. £127,707 (18 months to June 2009).

Walsh T, Forbes J, Langston A, McClelland DBL, Pelly J, Ramsay P, Watson D, Prowse C. A feasibility randomized trial comparing Restrictive and Liberal blood transfusion strategies in patients requiring four or more days in intensive care (RELIEVE study) £182,577 over 18 months to October 2010 (£100,000pa)

Armstrong-Fischer SS, Urbaniak SJ. Non-Invasive Prenatal Fetal D typing (follow up on optimisation assay timing) £62, 259 over 12 months from June 2009

Department of Health

Houston F, Prowse C, Turner M, MacGregor I, Hornsey V, Hunter N, Foster J, Groschup M. The effect of leucodepletion on transmission of BSE by transfusion of sheep blood components. £3,424,382 (6 years to December 2010.) *Extension to 2011 and possible increase under negotiation by Jean Manson*

Navigant Inc.

Prowse C et al. Validation of riboflavin treated fresh frozen plasma. £52,310. (1 year to July 2008) UK Blood Services Forum Prowse C, Turner M, Jones M, Head M: " vCJD confirmatory assay developments" £179,563 over 3 years from 1st April 2008-2011 (£60,000pa) SNBTS component of Prion filter trial (PRISM)

National Services Scotland (Scottish National Blood Transfusion Service)

Prowse C, Turner M, Jones M, Head M: for infrastructure and routine support of vCJD assay development CVP £65,000 capital and £80,648 pa salary and consumables over 3 years until 31st March 2011

Polish State Committee for Scientific Research

Swierzko AS, Szczapa J, Cedzynski M, Szemraj J, Domzalska-Popadiuk, I, Klink M, Kilpatrick D.C. Lectin pathway of complement in defence against infection in newborns. £21,000 (3 years May 2005-May 2008).

Cedzynski M, Atkinson APM, Swierzko AS, Szemraj J, MacDonald SL, Kilpatrick DC, Buczylo K, Zeman K. Investigation of the role of insufficiency of L-ficolin and other components of the lectin pathway of complement activation in recurrent respiratory infections in children with allergies. £26,000 (3 years April 2006- April 2009).

Iranian Government

SJ Urbaniak, RN Barker, M Moss, Gholamreza Sarab 2004-2008 PhD studentship – HPA-1a GP IIIa peptide binding and processing. External overall funding = £93,900. SNBTS contribution for 2008 – £5000 consumables.

SJ Urbaniak, SS Armstrong-Fisher. Ali Varzi 2004-2008 PhD Studentship – identification of fetal DNA genetic markers in maternal plasma. £91,400. SNBTS contribution for 2008 – £5000 consumables.

Saudi Arabian Government

M Moss, S Urbaniak (Abdulla Meshi) Characterisation of the human humoral immune response to RhD derived synthetic peptides. £89,745 2008-2011

DiaMed AG

RH Fraser. Development of novel monoclonal blood grouping reagents (Research Assistant salary funding). 200,000 SFr £88,000 (Rolling grant from years 2004-2008)

NHS Grampian University Hospitals Division (GUHT) Endowments

SJ Urbaniak. Research Technician. (Sadie Henderson) 2007-2009 £36,000. SNBTS contribution for 2008 – Nil.

Nestech Partnership

SJ Urbaniak, L Cairns, RN Barker, E Rattray. Peptide immunotherapy to suppress antibodies to red blood cells. £203,875. (3 years from 2005-2008)

NHS National Services Scotland - Service Redesign Bid

SJ Urbaniak, SS Armstrong-Fisher. Service Redesign Committee— pilot study of non-invasive RhD genotyping on maternal plasma. £56,480. 2006-2009.

NHS Blood and Tissues (England)

SS Armstrong-Fisher, SJ Urbaniak. Placental transfer of recombinant antibodies. £5000. SNBTS contribution for 2008 - £4000 2006-2008

University of Bristol

SS Armstrong-Fisher, SJ Urbaniak. Fetal DNA genetic markers in maternal plasma. (Funding support of PhD Studentship) £15,000 (in year 2007-2008) University of Bristol

Scottish Enterprise Proof of Concept

M Moss, S Urbaniak. Blood group mimotopes. £248,945. (3 years 2008-2010)

Glasgow Royal Infirmary Endowments

Holyoake TL and Allan E. Targeting quiescent CML stem cell by combining G-CSF and imatinib mesylate £9,700 (6 years to January 2011)

Holyoake T, Mysinna S. Is survival of primitive, quiescent stem cells from patients with chronic myeloid leukaemia Bcr-Abl dependent or not? £31,000. January 2008 – November 2008

Alba BioScience

Juraj Petrik Microarray diagnostics for blood borne viruses 2009: £ ~ 56,000. 2010: £ ~ 58,000

Bioarray Ltd / Quest Biomedical

AIS400 equipment loan (£14,000), and HEA blood group genotyping kits (£24,000) 2007-2008

Transfusion Education and Research Foundation

Walsh T, Watson D, Stanworth S £15,000 - statistical support for analysis of ISOC (ICU Study of Coagulopathy) 2008/09