

Dr Sylvie Freeman MBChB MRCP DPhil FRCPATH

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About

Consultant Hematologist / Clinician Scientist (PhD and Postdoctoral training at Institute of Molecular Medicine, University of Oxford, UK)

Specialist expertise in immunophenotypic diagnosis /monitoring of hematological malignancies with particular interest in acute myeloid leukemia (AML) / myelodysplasia /leukaemic stem cell.

Established track record in characterisation of surface markers in myeloid malignancies/ myelopoiesis (MRC clinician scientist) and lead on immunophenotyping in the AML MRC trials (CRUK /NIHR funded).

Has developed and leads the UK reference laboratory framework for immunophenotypic detection of MRD /eukaemic stem cells in UK MRC acute myeloid leukaemia trials (AML16 / AML17)

Qualifications

- Certificate of Completion of Specialist Training (Clinical Haematology) - 2003
- FRCPATH (Haematology) - 2002
- DPhil, University of Oxford - 1996
- MRCP (London) - 1990
- MB ChB (Hons), University of Birmingham - 1987

Biography

Sylvie Freeman qualified with a MBChB (Hons) from the University of Birmingham Medical School in 1987. She went on to clinical haematology specialist training in Oxford, then was awarded a MRC Training Fellowship for a DPhil in molecular haematology followed by a MRC Clinician Scientist Fellowship at the Institute of Molecular Haematology in Oxford. She completed her haematology clinical training at UCH and Bristol before joining the departments of Clinical Haematology and Immunology in 2003 as Senior Lecturer

Teaching

TEACHING PROGRAMMES

- [MBChB \(/undergraduate/courses/med/medicine.aspx\)](#) second year Immunology and Haematology module
- [MSc in Clinical Oncology \(/postgraduate/courses/taught/med/clinical-oncology.aspx\)](#)
- [BMedSci \(/undergraduate/courses/med/medical-sci.aspx\)](#) Clinical Sciences Intercalated
- FRCPATH course for Clinical Haematology

Research

RESEARCH THEMES

Leukemic residual disease and stem cells in acute myeloid leukaemia and myelodysplasia

RESEARCH ACTIVITY

Current and Recent Research Grants

1) Awarded 2010 – Collaborative Funding Partner - CIRP (Californian Institute for Regenerative Medicine) / MRC Grant – *Development of Therapeutic Antibodies Targeting Human Acute Myeloid Leukemia Stem Cells*

This grant is a collaboration between Weissman /Majeti (Stanford University California) / Vyas (Oxford University)/ Burnett (Cardiff University/NCRI AML trials) and myself.

I act as the lead clinician scientist overseeing the immunophenotyping for this study in the UK AML trials.

(£135,000 per year for immunophenotyping over 4 years, UK total grant £2,183,882 over 5 years)

2) Awarded 2009 –National Institute for Health Research Programme Grant - Co-investigator, (Lead investigator – Professor David Grimwade, Medical and Molecular Genetics, Guys Hospita, London)

The clinical development and service implementation of molecular screening and minimal residual disease monitoring to direct treatment of acute myeloid leukaemia (£1.997M over 60 months)

3) Awarded 2007 - TRICC (translational research in clinical

trials CRUK/MRC) grant, Lead Investigator.

Evaluation of the prognostic impact and optimal use of immunophenotypic monitoring of residual disease in patients with acute myeloid leukaemia recruited to AML16

(1/4/2007- 31/3/2012 - 5 years £400,000)

4) Joint co- investigator for LRF grant Mark Cobbold (50%) / Dr S Freeman (25%) / Charles Craddock (25%)

Characterising and immunologically targeting the phosphoproteome in acute myeloid leukaemia (2008-2011 – £294,576)

Recent

5) Joint principal investigator for LRF grant Prof C. Buckley / Dr S Freeman A role for CD31 (PECAM-1) in regulating Haematopoietic Stem Cell retention in the bone marrow niche (2006-2009 – £156,338)

Paper published *A novel role for PECAM-1 (CD31) in regulating haematopoietic progenitor cell compartmentalization between the peripheral blood and bone marrow*

6) Freeman SD, Investigation of the potential use of Toll-like receptors and Sialic acid-binding immunoglobulin-like lectins in leukaemia monitoring. UHB Charities; 2004-2007.

Other Collaborations / Studies in Myelodysplasia

1) Development of international strategy / research for the use of immunophenotyping in the diagnosis of myelodysplasia with Professor David Bowen (Leeds – Chairman of NCRN Myelodysplasia Working Party) , Dr Paresh Vyas (Oxford), Ogata (Japan), Della Porta (Italy)

International Flow cytometric MDS Collaborative Study –

Publication in preparation: Multicenter validation of a reproducible flow cytometric score for the diagnosis of low-risk myelodysplastic syndromes: results of a European LeukemiaNET study Matteo G Della Porta^{,1} Kiyoyuki Ogata^{*,2} Cristina Picone,¹ Luca Malcovati,¹ Cristiana Pascutto,¹ Hideto Tamura,² Hiroshi Handa,³ Magdalena Czader,⁴ Sylvie Freeman,⁵ Paresh Vyas,⁶ Anna Porwit,⁷ Leonie Saft,⁷ Theresia M. Westers,⁸ Canan Alhan,⁸ Claudia Cali,⁸ Arjan A. van de Loosdrecht⁸ and Mario Cazzola.¹*

2) Oxford (Vyas) Identificaton CD38 expression on CD34 progenitors as a potential diagnostic tool for myelodysplasia

Paper published by Haematologica -2009

Other activities

- Leads immunophenotyping service for largest clinical immunohematology laboratory in UK. Development of a regional service for immunophenotyping and molecular B- and T- cell clonality studies to optimise diagnosis and monitoring of haematological malignancies for West Midlands region, (extending as far as Swindon).
- Member of UK Natonal Cancer Research Institute Acute Myeloid Leukemia Working Party
- Co –Investigator in UK MRC AML trials (AML16/17)
- Invited Member for European LeukemiaNet Working Party

Publications

Latest Invited Review

Grimwade D, Vyas P, Freeman S. Assesment of Minimal Residual Disease in acut myeloid leukemia. *Current Opinion in Oncology* 2010 Nov;22(6):656-63. Review.

Others

Goardon N, Nikolousis E, Sternberg A, Chu W, Craddock C, Benson R, Drayson M, Standen G, Vyas P, Freeman S. Reduced CD38 expression on CD34+ cells as a diagnostic test in Myelodysplastic Syndromes. *Haematologica* 2009 Aug;94(8):1160-3.

Khanim FL, Bradbury CA, Arrazi J, Hayden RE, Rye A, Basu S, Macwhannell A, Sawers A, Griffiths M, Cook M, Freeman S, Nightingale KP, Grimwade D, Falciani F, Turner BM, Bunce CM, Craddock C. Elevated FOSB-expression; a potential marker of valproate sensitivity in AML. *Br J Haematol.* 2009 Feb 1;144(3):332-341.

Jenkins P, Freeman S. Pretreatment haematological laboratory values predict for excessive myelosuppression in patients receiving adjuvant FEC chemotherapy for breast cancer. *Annals in Onc* 2008 Aug 13 epub

Ross EA, Freeman S, Zhao Y, Dhanjal TS, Ross EJ, et al. A Novel Role for PECAM-1 (CD31) in Regulating Haematopoietic Progenitor Cell Compartmentalization between the Peripheral Blood and Bone Marrow. *PLoS ONE* 2008 3(6): e2338

Jenkins P, Elyan S, Freeman S. Obesity is not associated with increased myelosuppression in patients receiving chemotherapy for breast cancer, *European Journal of Cancer* 2007 43 544-548

Avril T, Freeman SD, Attrill H, Clarke RG, Crocker PR. Siglec-5 (CD170) can mediate inhibitory signalling in the absence of immunoreceptor tyrosine-based inhibitory motif phosphorylation. *J Biol Chem.* 2005 280:19843-51

Virgo P, Denning-Kendall T, Erickson-Miller CL, Singha S, Evelyn R, Hows J.M and Freeman SD. Identification of the CD33-related Siglec receptor, Siglec-5 (CD170), as a useful marker in both normal myelopoiesis and acute myeloid leukaemias *Br J Haematol* 2003 123 (3):420-30

Erickson-Miller CL, Freeman SD, Hopson CB, D'Alessio KJ, Fischer EI, Kikly KK and King AG. Characterisation of Siglec-5 expression and functional activity of anti-Siglec-5 antibodies on human phagocytes. *Exp Hematol.* 2003 31(5):382-8

