CURRICULUM VITAE

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Date of Birth: May 20, 1955.

Place of Birth: Stirling, Scotland.

Nationality: United States/United Kingdom (dual nationality).

Education:

1977 B.Sc.	Edinburgh University (Zoology Department, School of Biological Sciences), Edinburgh, Scotland (Summa cum Laude Honors).
1982 D.Phil.	Oxford University (Wolfson College and Biochemistry Department), Oxford, England (Dissertation: Cellular expression and genetics of the third component of human complement. Supervisor: Sir Walter Bodmer).

Research Fellowships:

1982-1983	Postdoctoral Research Fellow, Division of Cell Biology, Children's Hospital Medical Center, Boston, MA, USA.

Academic Appointments:

1983-1985	Instructor in Pediatrics, Harvard Medical School, Boston, MA, USA.
1985-1991	Assistant Professor of Pediatrics, Harvard Medical School, Boston, MA, USA.
1991-1993	Associate Professor of Pediatrics, Harvard Medical School, Boston, MA, USA.
1991-1998	Smurfit Professor of Medical Genetics, Department of Genetics, Trinity College, University of Dublin, Dublin, Ireland.
1997-2014	Professor of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA, USA.
2014-	Professor of Systems Pharmacology and Translational Therapeutics, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA.

Other Professional Positions:

1985-1991	Research Associate in Medicine, Children's Hospital Medical Center, Boston, MA, USA.
1989-1991	Investigator, Center for Blood Research, Boston, MA, USA.
1992-1997	Director, Trinity College Biotechnology Institute, University of Dublin, Dublin, Ireland.
1998-	Director, Center for Pharmacogenetics, University of Pennsylvania School of Medicine, Philadelphia, PA, USA.

Major Visiting Appointments:

11/89-2/90	Visiting Scientist, Department of Clinical Immunology, Royal Perth Hospital, Perth, Australia; and Honorary Research Fellow, Department of Pathology, University of Western Australia, Nedlands, Australia.

Membership in Professional Societies:

1988-2004	American Association of Immunologists.
1992-2005	The Human Genome Organization.
1997-	American Heart Association.

Awards and Honours:

1983-1985	Helen Hay Whitney Foundation Fellow.
1987-1991	Pew Scholar in the Biomedical Sciences.
1989-1991	International Fellow of the Deutsches Rheuma-ForchungsZentrum Berlin.
1992	M.A. degree conferred *de jure officii* by University of Dublin.
1992	Federation of European Biochemical Societies Anniversary Prize of the Gesellschaft Fur Biologische Chemie.
1994-1997	Elected Fellow of Trinity College, Dublin.
1996	Elected Member of the European Molecular Biology Organization.
1999	Elected Member of the John Morgan Society, University of Pennsylvania.
2000	Elected Fellow of the Council on Arteriosclerosis, Thrombosis, and Vascular Biology of the American Heart Association.

Editorial Boards:

1988-1991	Editorial Advisor, Biochemical Journal.
1991-1998	Editorial Board Member, Biochemical Journal.

Peer-Review Funding Agency Committee Membership:

1992-1994	Cell and Molecular Biology Panel, Biomedicine and Health Research (BIOMED1) Program of the Commission of the European Communities (CEC), Brussels, Belgium.
1992	Cell Biology Committee, Health Research Board, Dublin, Ireland.
1993	Human Genome Analysis Panel, BIOMED1 Program of the CEC, Brussels, Belgium.
1993-1997	Genetics Committee, Health Research Board, Dublin, Ireland.
1993-1997	Cardiovascular Panel, BIOMED2 Program of the CEC, Brussels, Belgium.
1994	Fellowship Evaluation Committee, BIOMED Program of the CEC, Brussels, Belgium.
1995-1997	Grant Review Board, Irish Cancer Society, Dublin, Ireland.
1995	Fellowship Evaluation Committee, Health Research Board, Dublin, Ireland.
1996-1997	Scientific Committee, Irish Heart Foundation, Dublin, Ireland.
1998	Chemistry and Related Sciences Special Emphasis Panel for Review of Small Business Grant Applications, National Institutes of Health, Bethesda, MD, USA.
2002	Dermatology and Rheumatology Special Emphasis Panel, National Institutes of Health, Bethesda, MD, USA.
2003-2004	Neurological Sciences and Disorders “A” Study Section (Temporary Member), National Institutes of Health, Bethesda, MD, USA.
2009-2010	Biochemistry Review Panel, Science Foundation Ireland, Dublin, Ireland.

University Committee Membership:

1992-1997	Biotechnology Committee, University of Dublin.
1996-1997	Academic and Senior Administrative Staff Promotions Committee, University of Dublin.

1998-	Graduate Group Executive Committee, Graduate Group in Pharmacological Sciences, University of Pennsylvania School of Medicine.
1998-2011	Appointments and Promotions Committee, Department of Pharmacology, University of Pennsylvania School of Medicine.
1998-2001	Combined MD/PhD Degree Admissions/Advisory Committee, University of Pennsylvania School of Medicine.
1999-2000	Department of Genetics Review Committee, University of Pennsylvania School of Medicine.
2004-2013	Chair, Graduate Group in Pharmacological Sciences Membership Committee, University of Pennsylvania School of Medicine.
2006-2011	Clinical Research Advisory Committee, University of Pennsylvania School of Medicine.
2013-	Member, Graduate Group in Pharmacological Sciences Membership Committee, Perelman School of Medicine, University of Pennsylvania.

External Academic Committee Membership:

1995-1997	Genetic Anthropology Advisory Committee, Royal Irish Academy, Dublin, Ireland.
1999-2002	Vascular Biology Section Advisory Committee, Council on Arteriosclerosis, Thrombosis and Vascular Biology, American Heart Association.
1999-2002	Council on Arteriosclerosis, Thrombosis and Vascular Biology Executive Committee, American Heart Association.
1999-2002	Council on Arteriosclerosis, Thrombosis and Vascular Biology Communications Committee, American Heart Association.
2004-	Pharmacogenetics Sub-Committee and Developmental Therapeutics Committee, Eastern Co-Operative Oncology Group.

External Professional Activities:

2000	Member, Medical Advisory Board, Orchid Biosciences, Princeton, NJ.
2000-2007	Member, St. David's Human Research Review Board (Independent IRB), Radnor, PA.

Teaching Experience:

1977-1979	Teaching Assistant, Undergraduate Genetics and Microbiology Laboratory Courses, Oxford University, Oxford, England.
1977-1979	Tutor to Undergraduate Biological Science Students, Oxford University, Oxford, England.
1978-1979	Instructor, Genetics and Biochemistry Course, Oxford Polytechnic, Oxford, England.
1991-1997	Professor, Department of Genetics, Trinity College, Dublin, Ireland.
1997-	Professor, Department of Pharmacology, University of Pennsylvania School of Medicine.
1997-	Member, Graduate Group in Pharmacological Sciences, University of Pennsylvania School of Medicine.
2002-2005	Member, Graduate Group in Genomics and Computational Biology, University of Pennsylvania School of Medicine.

Doctoral Thesis External Examiner:

1993	University of London, United Kingdom.
1996	University of Tromsoe, Norway.
1997	University of Aarhus, Denmark.
1997	National University of Ireland, University College Galway, Ireland.
1997	University of Western Australia, Australia.
1997	University of Oxford, United Kingdom.
1999	National University of Ireland, University College Cork, Ireland.
2004	University of Manitoba, Winnipeg, Canada.

2007 Trinity College, University of Dublin, Ireland.
2010 Trinity College, University of Dublin, Ireland.
2013 University of Queensland, Australia.

Past and Current Research Interests:

1. Biosynthetic control and molecular genetics of major acute phase proteins.

2. Mechanisms and mediators of inflammation and their role in auto-immune diseases.

3. Inherited defects of folate metabolism and their role in hyperhomocysteinemia, rheumatoid arthritis, systemic lupus erythematosus, cardiovascular disease, neural tube defects, and other pathological conditions.

4. Pharmacogenetics of commonly prescribed drugs that target, or interact with, enzymes controlling homocysteine and folate metabolism, particularly in relation to rheumatoid arthritis, pediatric and adult cancers and auto-immune diseases.

5. The genetics of cancer and the modulating role of folate in susceptibility, onset and progression.

6. Gene-environment interactions and lung cancer susceptibility.

Bibliography.

Original Reports:

1. Whitehead AS, Sim RB and Bodmer WF. A monoclonal antibody against human complement component C3: The production of C3 by human cells *in vitro*. *Eur J Immunol,* 1981; 11: 140-146.

2. Fantl VE, Wang DY and Whitehead AS. Production and characterization of a monoclonal antibody to progesterone. *J Steroid Biochem,* 1981; 14: 405-407.

3. Whitehead AS, Solomon E, Chambers S, Bodmer WF, Povey S and Fey G. Assignment of structural gene for the third component of human complement to chromosome 19. *Proc Natl Acad Sci USA*, 1982; 79: 5021-5025.

4. Whitehead AS, Bruns GAP, Markham AF, Colten HR and Woods DE. Isolation of human C-reactive protein complementary DNA and localization of the gene to chromosome 1. *Science*, 1983; 221: 69-71.

5. Whitehead AS, Goldberger G, Woods DE, Markham AF and Colten HR. Use of a human C4 cDNA clone for analysis of a genetic deficiency of the fourth complement component (C4) in guinea pig. *Proc Natl Acad Sci USA,* 1983; 80: 5387-5391.

6. Tucci A, Goldberger G, Whitehead AS, Kay RM, Woods DE and Colten HR. Biosynthesis and post-synthetic processing of human C-reactive protein. *J Immunol,* 1983; 131: 2416-2419.

7. Chaplin DD, Woods DE, Whitehead AS, Goldberger G, Colten HR and Seidman JG. Molecular map of the murine S region. *Proc Natl Acad Sci USA,* 1983; 80: 6947-6951.

8. Whitehead AS, Skinner M, Bruns GAP, Costello W, Edge MD, Cohen AS, and Sipe JD. Cloning of human prealbumin cDNA: localization of the gene to chromosome 18 and detection of a variant pre-albumin allele in a family with familial amyloid polyneuropathy. *Mol Biol Med,* 1984; 2: 411- 423.

9. Whitehead AS, Woods DE, Fleischnick E, Chin JE, Yunis EJ, Katz AJ, Gerald PS, Alper CA and Colten HR. DNA polymorphism of the C4 genes: a new marker for analysis of the major histocompatibility locus. *N Engl J Med,* 1984; 310: 88- 91.

10. Lundwall AB, Wetsel RA, Kristensen T, Whitehead AS, Woods DE, Ogden RC, Colten HR, and Tack BF. Isolation and sequence analysis of a cDNA clone encoding the fifth component of complement. *J Biol Chem,* 1985; 260: 2108-2112.

11. Whitehead AS, Colten HR, Chang CC and DeMars R. Localization of the MHC- linked complement genes between HLA-B and HLA-DR using HLA mutant cell lines. *J Immunol,* 1985; 134: 641-643.

12. Sipe JD, Colten HR, Goldberger G, Edge MD, Tack BF, Cohen AS and Whitehead AS. Serum amyloid A (SAA): biosynthesis and post-synthetic processing of preSAA and structural variants defined by complementary DNA. *Biochemistry,* 1985; 24: 2931-2936.

13. Mantzouranis EC, Dowton SB, Whitehead AS, Edge MD, Bruns GAP and Colten HR. Human serum amyloid P component: cDNA isolation, complete sequence of pre-serum amyloid P component, and localization of the gene to chromosome 1. *J Biol Chem,* 1985; 260: 7752-7756.

14. Cole FS, Whitehead AS, Auerbach HS, Lint T, Zeitz HJ, Kilbridge P and Colten HR. The molecular basis for genetic deficiency of the second component of human complement. *N Engl J Med,* 1985; 313: 11-16.

15. Strunk RC, Whitehead AS and Cole FS. Pre-translational regulation of the synthesis of the third component of complement in human mononuclear phagocytes by the lipid A portion of lipopolysaccharide. *J Clin Invest,* 1985; 76: 985-990.

16. Woo P, Korenberg JR and Whitehead AS. Characterization of genomic and complementary DNA sequence of human C-reactive protein, and comparison with the complementary DNA sequence of serum amyloid P component. *J Biol Chem,* 1985; 260: 13384-13388.

17. Davis AE III, Whitehead AS, Harrison RA, Dauphinais A, Bruns GAP, Cicardi M and Rosen FS. Human inhibitor of the first component of complement, C1: characterization of cDNA clones and localization of the gene to chromosome 11. *Proc Natl Acad Sci USA,* 1986; 83: 3161-3165.

18. Floyd-Smith G, Whitehead AS, Colten HR and Francke U. The human C-reactive protein gene (CRP) and serum amyloid P component gene (*APCS*) are located on the proximal long arm of chromosome 1. *Immunogenetics,* 1986; 24: 171-176.

19. Schneider PM, Carroll MC, Alper CA, Rittner C, Whitehead AS, Yunis EJ and Colten HR. Polymorphism of the human complement C4 and steroid 21-hydroxylase genes: restriction fragment length polymorphisms revealing structural deletions, homo-duplications and size variants. *J Clin Invest,* 1986; 78: 650-657.

20. Rao AG, Howard OMZ, Ng SC, Whitehead AS, Colten HR and Sodetz JM. Complementary DNA and derived amino acid sequence of the alpha subunit of human complement protein C8: evidence for the existence of a separate subunit messenger RNA. *Biochemistry,* 1987; 26: 3556-3564.

21. Falus A, Wakeland EK, McDonnel TJ, Gitlin J, Whitehead AS and Colten HR. DNA polymorphism of MHC class III genes in inbred and wild mouse strains. *Immunogenetics,* 1987; 25: 290-298.

22. Whitehead AS, Rits M and Michaelson J. Molecular genetics of mouse serum amyloid P component (SAP): cloning and gene mapping. *Immunogenetics,* 1988; 28: 388-390.

23. Whitehead AS, Truedsson L, Schneider PM, Awdeh ZL, Fleischnick E, Blumenthal M, Costello W, Gerald PS, Yunis EJ and Alper CA. The distribution of human C4 DNA variants in relation to major histocompatibility complex alleles and extended haplotypes. *Human Immunol,* 1988; 21: 23-32.

24. Ionasescu V, Burns T, Searby C, Ionasescu R and Whitehead AS. Linkage between the loci for autosomal dominant neuronal Charcot-Marie-Tooth neuropathy (*CMT1*) and serum amyloid P component (*APCS*) on human chromosome 1. *Cytogenet Cell Genet,* 1988; 47: 175-176.

25. Shelley CS, Remold-O'Donnell E, Davis AE III, Bruns GAP, Rosen FS, Carroll MC and Whitehead AS. Molecular characterization of sialophorin (CD43), the lymphocyte surface sialoglycoprotein defective in Wiscott-Aldrich Syndrome. *Proc Natl Acad Sci USA,* 1989; 86: 2819-2823.

26. Whitehead AS and Rits M. Characterization of the gene encoding mouse serum amyloid P component: comparison with genes encoding other pentraxins. *Biochem J,* 1989; 263: 25-31.

27. Zahedi K and Whitehead AS. Acute phase induction of mouse serum amyloid P component (SAP): correlation with other parameters of inflammation. *J Immunol,* 1989; 143: 2880-2886.

28. Whitehead AS, Zahedi K, Rits M, Mortensen RF and Lelias JM. Mouse C-reactive protein: generation of complementary DNA clones, structural analysis, and induction of mRNA during inflammation. *Biochem J,* 1990; 266: 283-290.

29. Lin B-F, Ku N-O, Zahedi K, Whitehead AS, and Mortensen RF. IL-1 and IL-6 mediate increased production and synthesis of the acute phase reactant mouse serum amyloid P-component (SAP). *Inflammation,* 1990; 14: 297-313.

30. Shelley CS, Remold-O'Donnell E, Rosen FS and Whitehead AS. Structure of the human sialophorin (CD43) gene: identification of features atypical of genes encoding integral membrane proteins. *Biochem J,* 1990; 270: 569-576.

31. Yunis I and Whitehead AS. The mouse C-reactive protein gene maps to distal chromosome 1 and, like its human counterpart, is closely linked to the serum amyloid P component gene. *Immunogenetics,* 1990; 32: 361-363.

32. Abraham LJ, Du DC, Zahedi K, Dawkins RL and Whitehead AS. Haplotypic polymorphisms of the TNF-β gene. *Immunogenetics,* 1991; 33: 50-53.

33. Sellar GC, DeBeer MC, Lelias JM, Snyder P, Glickman L, Felsberg P and Whitehead AS. Dog serum amyloid A protein: identification of multiple isoforms defined by cDNA and protein analyses. *J Biol Chem,* 1991; 266: 3505-3510.

34. Zahedi K, Gonnerman WA, DeBeer FC, DeBeer MC, Steel DM, Sipe JD and Whitehead AS. Major acute phase reactant synthesis during chronic inflammation in amyloid susceptible and resistant mouse strains. *Inflammation,* 1991; 15: 1-15.

35. Whitehead AS, Gonnerman WA, Steel DM and Zahedi K. Amyloid resistance in A/J mice is not determined by genetic variants at, or close to, the serum amyloid P component (SAP) locus. *Clin Exp Immunol,* 1991; 84: 153-156.

36. Zahedi K, Seldin MF, Rits M, Ezekowitz RAB and Whitehead AS. The mouse interleukin 1 receptor antagonist protein (IL-1rn): molecular characterization, gene mapping, and mRNA synthesis *in vitro* and *in vivo*. *J Immunol,* 1991; 146: 4228-4233.

37. Steel DM and Whitehead AS. Heterogenous modulation of acute phase reactant mRNA levels by interleukin-1β and interleukin-6 in the human hepatoma cell line PLC/PRF/5. *Biochem J,* 1991; 277: 477-482.

38. Sastry K, Zahedi K, Lelias JM, Whitehead AS and Ezekowitz RAB. The molecular characterization of the mouse mannose-binding proteins. The mannose-binding protein A but not C is an acute phase reactant. *J Immunol,* 1991; 147: 692-697.

39. Mehdi H, Nunn M, Steel DM, Whitehead AS, Perez M, Walker L and Peeples ME. Nucleotide sequence and expression of the human gene encoding apolipoprotein H (β2-glycoprotein I). *Gene,* 1991; 108: 293-298.

40. Whitehead AS, DeBeer MC, Steel DM, Rits M, Lelias JM, Lane WS and DeBeer FC. Identification of novel members of the serum amyloid A protein (SAA) superfamily as constitutive apolipoproteins of high density lipoprotein. *J Biol Chem,* 1992; 267: 3862-3867.

41. Coutinho M, Zahedi K, Whitehead AS and Davis AE III. Resistance to secondary amyloidosis in A/J mice is not a result of deficiency of the fifth component of complement (C5). *Eur J Immunogenetics,* 1992; 19: 419-423.

42. Steel DM, Rogers JT, DeBeer FC, DeBeer MC and Whitehead AS. Post-transcriptional regulation of acute phase human serum amyloid A (A-SAA) synthesis *in vitro*: the roles of mRNA accumulation, poly (A) tail shortening and translational efficiency. *Biochem J,* 1993; 291: 701-707.

43. Rubio N, Sharp PM, Rits M, Zahedi K and Whitehead AS. Structure, expression and evolution of guinea pig serum amyloid P component and C-reactive protein. *J Biochem,* 1993; 113: 277-284.

44. Sellar GC, Keane J, Mehdi H, Peeples ME, Browne N and Whitehead AS. Characterization and acute phase modulation of canine apolipoprotein H (β2-glycoprotein I). *Biochem Biophys Res Commun,* 1993; 191: 1288-1293.

45. Zahedi K and Whitehead AS. *In vitro* regulation of mouse serum amyloid P (SAP) gene expression *Biochim Biophys Acta,* 1993; 1176: 162-168.

46. Sellar GC and Whitehead AS. Localization of four human serum amyloid A (SAA) protein superfamily genes to chromosome 11p. Characterization of a fifth SAA-related sequence. *Genomics,* 1993; 16: 774-776.

47. Steel DM, Sellar GC, Uhlar CM, Simon S, DeBeer FC and Whitehead AS. A constitutively expressed serum amyloid A protein *SAA4* gene is closely linked to, and shares structural similarities with, an acute phase serum amyloid A protein *SAA2* gene. *Genomics,* 1993; 16: 447-454.

48. Seery LT, Schoenberg DR, Barbaux S, Sharp PM and Whitehead AS. Molecular evolution of the pentraxins: Identification of a member of the pentraxin family from *Xenopus laevis*. *Proc Roy Soc Series B,* 1993; 253: 263-270.

49. Zahedi KA, Uhlar CM, Rits M, Prada AE and Whitehead AS. The mouse interleukin 1 receptor antagonist protein: gene structure and regulation *in vitro*. *Cytokine,* 1994; 6: 1-9.

50. Sellar GC, Jordan SA, Bickmore W, Fantes J, van Heyningen V and Whitehead AS. The human serum amyloid A protein (SAA) superfamily gene cluster: mapping to chromosome 11p15.1 by physical and genetic linkage analysis. *Genomics,* 1994; 19: 221-227.

51. Sellar GC, Steel DM, Zafiropoulos A, Seery LT and Whitehead AS. Characterization, expression and evolution of mouse β2-glycoprotein I (apolipoprotein H). *Biochem Biophys Res Commun,* 1994; 200: 1521-1528.

52. Butler A and Whitehead AS. Resistance to secondary amyloidosis in A/J mice is not significantly associated with allelic variants linked to the serum amyloid A gene cluster. *Scand J Immunol*, 1994; 40: 355-358.

53. Uhlar CM, Burgess CJ, Sharp PM and Whitehead AS. Evolution of the serum amyloid A (SAA) protein superfamily. *Genomics*, 1994; 19: 228-235.

54. Sellar GC and Whitehead AS. The putative fifth human serum amyloid A protein (SAA)-related gene "*SAA5* " is defined by *SAA3*. *Biochem Biophys Res Commun*, 1994; 200: 202-205.

55. Sellar GC, Oghene K, Boyle S, Bickmore WA and Whitehead AS. Organization of the human serum amyloid A protein (SAA) gene family on chromosome 11p15.1. *Genomics*, 1994; 23: 492-495.

56. Seery LT, McCabe BD, Schoenberg DR and Whitehead AS. S-Adenosyl-L-homocysteine hydrolase from *Xenopus laevis* - identification, developmental expression, and evolution. *Biochem Biophys Res Commun*, 1994; 205: 1539-1546.

57. Seery LT, Schoenberg DR, Canning M and Whitehead AS. Identification and characterization of a cDNA encoding ribosomal protein S12 from *Xenopus laevis*. *Gene*, 1994; 150: 331-333.

58. Butler A, Rochelle JM, Seldin MF and Whitehead AS. The gene encoding the mouse serum amyloid A protein, apo-SAA5, maps to proximal chromosome 7. *Immunogenetics*, 1995; 42: 153-155.

59. Shields DC, Harmon DL, Nunez F and Whitehead AS. The evolution of haematopoietic cytokine/receptor complexes. *Cytokine*, 1995; 7: 679-688.

60. Gallagher PM, Ward P, Tan S, Naughten E, Kraus JP, Sellar GC, McConnell DJ, Graham I and Whitehead AS. High frequency (71%) of cystathionine β-synthase mutation G307S in Irish homocystinuria patients. *Human Mutation*, 1995; 6: 177-180.

61. Whitehead AS, Gallagher P, Mills JL, Kirke PN, Burke H, Molloy AM, Weir DG, Shields DC and Scott JM. A genetic defect in 5,10-methylenetetrahydrofolate reductase in neural tube defects. *Q J Med*, 1995; 88: 763-766.

62. Gaughan DJ, Steel DM and Whitehead AS. Ribozyme mediated cleavage of acute phase serum amyloid A (A-SAA) mRNA *in vitro. FEBS Lett*, 1995; 374: 241-245.

63. Uhlar CM, Black IL, Shields DC, Brack CM, Schreiber G, and Whitehead AS. Wallaby serum amyloid A protein: cDNA cloning, sequence, and evolutionary analysis. *Scand J Immunol*, 1996; 43: 271-276.

64. Shields DC, Harmon DL and Whitehead AS. Evolution of hemopoietic ligands and their receptors: Influence of positive selection on correlated replacements throughout ligand and receptor proteins. *J Immunol*, 1996; 156: 1062-1070.

65. Walsh M-T, Divane A and Whitehead AS. Fine mapping of the human pentraxin gene region on chromosome 1q23. *Immunogenetics*, 1996; 44: 62-69.

66. Barbaux S, Seery LT, Schoenberg DR, Sellar GC and Whitehead AS. The *Xenopus laevis* homologue of the 64kDa subunit of cleavage stimulation factor. *Comp Biochem Physiol*, 1996; 114B: 313-315.

67. Harmon DL, Woodside JV, Yarnell JWG, McMaster D, Young IS, McCrum E, Gey KF, Whitehead AS and Evans A. The common "thermolabile" variant of 5,10-methylene-tetrahydrofolate reductase is major determinant of mild hyperhomocysteinaemia. *Q J Med*, 1996; 89: 571-577.

68. Whitehead AS, Bertrandy Bloud S, Finan F, Butler A, Davey Smith G and Ben-Shlomo Y. The frequency of the ApolipoproteinE ε4 allele in a case control study of early-onset Parkinson's Disease. *J Neurol Neurosurg Psychiatry,* 1996; 61: 347-351.

69. Steel DM, Donoghue FC, O'Neill RM, Uhlar CM and Whitehead AS. Expression and regulation of constitutive and acute phase serum amyloid A mRNAs in hepatic and non-hepatic cell lines. *Scand J Immunol,* 1996; 44: 493-500.

70. McCormack CC, Hobson AH, Doyle S, Jackson J, Kilty C and Whitehead AS. Generation of soluble recombinant human acute phase serum amyloid A2 (A-SAA2) protein and its use in development of an A-SAA specific ELISA. *J Immunol Methods,* 1996; 198: 101-110.

71. Gallagher PM, Meleady R, Shields DC, Tan KS, McMaster D, Rozen R, Evans A, Graham IM and Whitehead AS. Homocysteine and risk of coronary heart disease: evidence for a common gene mutation. *Circulation,* 1996; 94: 2154-2158.

72. Shields D C, Butler A, Mosurski KR, Walsh MT and Whitehead AS. Mapping genes within a YAC by computer-assisted interpretation of partial restriction digestions. *Nucleic Acids Res,* 1996; 24: 4495-4500.

73. Butler A and Whitehead AS. Mapping of the mouse serum amyloid A gene cluster by long-range polymerase chain reaction. *Immunogenetics,* 1996; 44: 468-474.

74. Jensen LE, Hiney M, Shields DC, Uhlar CM, Lindsay AJ and Whitehead AS. Acute phase proteins in salmonids: evolutionary analysis and acute phase response. *J Immunol,* 1997; 158: 384-392.

75. Ramsbottom D, Scott JM, Molloy A, Weir D, Kirke P, Mills J, Gallagher PM and Whitehead AS. Are common mutations of cystathionine-β-synthase involved in the aetiology of neural tube defects? *Clinical Genetics,* 1997; 51: 39-42.

76. Butler A and Whitehead AS. Structure of the mouse serum amyloid A 5 (*Saa5*) gene: relationship to other members of the serum amyloid A family. *Scand J Immunol,* 1997; 45: 160-165.

77. Harmon DL, McMaster D, Shields DC, McCluskey DR and Whitehead AS. A common genetic variant affecting folate metabolism is not associated with chronic fatigue syndrome. *Ann Clin Biochem,* 1997; 34: 427-429.

78. Uhlar CM, Grehan S, Steel DM, Steinkasserer A and Whitehead AS. Use of the acute phase serum amyloid A2 (*SAA2*) gene promoter in the analysis of pro- and anti-inflammatory mediators: differential kinetics of SAA2 promoter induction by IL-1β and TNFα compared to IL-6. *J Immunol Methods,* 1997; 203: 123-130.

79. Grehan S, Uhlar CM, Sim RB, Herbert J and Whitehead AS. Expression of a biologically active recombinant mouse interleukin-1 receptor antagonist (IL-1ra) and its use *in vivo* to modulate aspects of the acute phase response. *J Immunol,* 1997; 159: 369-378.

80. Gaughan DJ and Whitehead AS. Efficient *in vitro* cleavage of mouse acute phase serum amyloid A (A-SAA) mRNA mediated by a synthetic hammerhead ribozyme. *Scand J Immunol,* 1997; 46: 51-58.

81. Molloy AM, Daly S, Mills JL, Kirke PN, Whitehead AS, Ramsbottom D, Conley MR, Weir DG and Scott JM. Thermolabile variant of 5,10-methylenetetrahydrofolate reductase associated with low red cell folates: implications for folate intake recommendations. *Lancet,* 1997; 349: 1591-1593.

82. Kim CE, Gallagher PM, Guttormsen AB, Refsum H, Ueland PM, Ose L, Folling I, Whitehead AS, Tsai MY and Kruger WD. Functional modeling of vitamin responsiveness in yeast: a common pyridoxine-responsive cystathionine beta-synthase mutation in homocystinuria. *Hum Mol Genet*, 1997; 6: 2213-2221.

83. Grehan S, Herbert J and Whitehead AS. Down-regulation of the major circulating precursors of proteins deposited in secondary amyloidosis by a recombinant mouse interleukin-1 receptor antagonist. *Eur J Immunol*, 1997; 27: 2593-2599.

84. Molloy AM, Mills JL, Kirke PN, Whitehead AS, Weir DG and Scott JM. Whole-blood folate values in subjects with different methylenetetrahydrofolate reductase genotypes: differences between the radioassay and microbiological assays. *Clin Chem*, 1998; 44: 186-188.

85. Mealy K, Barry M, O'Mahony L, Sheehan S, Burke P, McCormack C, Whitehead AS and Bouchier-Hayes, D. Effects of human recombinant growth hormone (rhGH) on inflammatory responses in patients undergoing abdominal aortic aneurysm repair. *Intensive Care Med.*, 1998; 24: 128-131.

86. Woodside JV, Yarnell JWG, McMaster D, Young IS, Harmon DL, McCrum EE, Patterson CC, Gey KF, Whitehead AS and Evans A. Effect of B-group vitamins and antioxidant vitamins on hyperhomocysteinemia: a double-blind, randomized, factorial-design, controlled trial. *Am J Clin Nutrition*, 1998; 67: 858-866.

87. Vargas FR, Roessler E, Gaudenz K, Belloni E, Whitehead AS, Kirke PN, Mills JL, Hooper G, Stevenson RE, Cordiero I, Correia P, Felix T, Gereige R, Cunningham ML, Canun S, Antonarakis SE, Strachan T, Tsui L-C, Scherer SW and Muenke M. Analysis of the human *Sonic Hedgehog* coding and promoter regions in sacral agenesis, triphalangeal thumb, and mirror polydactyly. *Hum Genet*, 1998; 102: 387-392.

88. Molloy AM, Mills JL, Kirke PN, Ramsbottom D, McPartlin JM, Burke H, Conley MR, Whitehead AS, Weir DG and Scott JM. Low blood folates in NTD pregnancies are only partly explained by thermolabile 5,10-methylenetetrahydrofolate reductase: Low folate status alone may be the critical factor. *Am J Med Genet*, 1998; 78: 155-159.

89. Jensen LE and Whitehead AS. Competitive reverse transcription polymerase chain reaction for quantifying pre-mRNA and mRNA of major acute phase proteins. *J Immunol Methods*, 1998; 215: 45-58.

90. Gallagher PM, Naughten E, Hanson NQ, Schwichtenberg K, Bignell M, Yuan M, Ward P, Yap S, Whitehead AS and Tsai MY. Characterization of mutations in the cystathionine-β-synthase gene in Irish patients with homocystinuria. *Mol Genet Metab*, 1998; 65: 298-302.

91. Harmon DL, Doyle RM, Meleady R, Doyle M, Shields DC, Barry R, Coakley D, Graham IM and Whitehead AS. Genetic analysis of the thermolabile variant of 5,10-methylenetetrahydrofolate reductase as a risk factor for ischemic stroke. *Arterioscler Thromb Vasc Biol*, 1999; 99: 208-211.

92. Uhlar CM and Whitehead AS. The kinetics and magnitude of the synergistic activation of the serum amyloid A promoter by IL-1β and IL-6 is determined by the order of cytokine addition. *Scand J Immunol*, 1999; 49: 399-404.

93. Harmon DL, Shields DC, Woodside JV, Peng K, Shane B, McMaster D, Yarnell JWG, Evans AE, and Whitehead AS. The methionine synthase D919G polymorphism is a significant but modest determinant of circulating homocysteine concentrations. *Genet Epidemiol*, 1999; 17: 298-309.

94. Mahmud N, Molloy AM, McPartlin J, Corbally R, Whitehead AS, Scott JM and Weir DG. Increased prevalence of methylenetetrahydrofolate reductase C677T variant in patients with inflammatory bowel disease, and its clinical implications. *Gut*, 1999; 45: 389-394.

95. Longley DB, Steel DM and Whitehead AS. Post-transciptional regulation of acute phase serum amyloid A2 expression by the 5'- and 3'-untranslated regions of its mRNA. *J Immunol*, 1999; 163: 4537-4545.

96. Shields DC, Kirke PN, Mills JL, Ramsbottom D, Molloy AM, Burke H, Weir DG, Scott JM, and Whitehead AS. The "thermolabile" variant of methylenetetrahydrofolate reductase and neural tube defects: an evaluation of genetic risk and the relative importance of the genotypes of the embryo and the mother. *Am J Hum Genet*, 1999; 64: 1045-1055.

97. O'Hara R, Murphy EP, Whitehead AS, FitzGerald O and Bresnihan B. Acute phase serum amyloid A production by rheumatoid arthritis synovial tissue. *Arthritis Res*, 2000; 2: 142-144.

98. Cunnane G, Grehan S, Geoghegan S, McCormack C, Shields D, Whitehead AS, Bresnihan B and FitzGerald O. Serum amyloid A in the assessment of early inflammatory arthritis. *J Rheumatol*, 2000; 27: 58-63.

99. Rea IM, McMaster D, Woodside JV, Young IS, Archbold GPR, Linton T, Lennox S, McNulty H, Harmon DL and Whitehead AS. Community-living nonagenarians in Northern Ireland have lower plasma homocysteine but similar methylenetetrahydrofolate reductase thermolabile genotype prevalence compared to 70-89 year old subjects. *Atherosclerosis*, 2000; 149: 207-214.

100. Murphy RP, Donoghue C, Nallen RJ, D'Mello M, Regan C, Whitehead AS and Fitzgerald DJ. Prospective evaluation of the risk conferred by Factor V Leiden and thermolabile methylene-tetrahydrofolate reductase polymorphisms in pregnancy. *Arterioscler Thromb Vasc Biol*, 2000; 20: 266-270.

101. Barbaux S, Plomin R and Whitehead AS. Polymorphisms of genes controlling homocysteine/folate metabolism and cognitive function. *NeuroReport*, 2000; 11: 1133-1136.

102. Shields DC, Ramsbottom D, Donoghue C, Pinjon E, Kirke PN, Molloy AM, Edwards YH, Mills, JM, Mynett-Johnson L, Weir DG, Scott JM and Whitehead AS. Association between historically high frequencies of neural tube defects and the human *T* homologue of mouse *T* (*Brachyury*). *Am J Med Genet*, 2000; 92: 206-211.

103. Jensen LE, Muzio M, Mantovani A and Whitehead AS. Interleukin-1 signaling cascade in hepatocytes and the involvement of a soluble form of the interleukin-1 receptor accessory protein. *J Immunol*, 2000; 164: 5277-5286.

104. Roche HM, Black IL, Noone E, Tully AM, Whitehead AS and Gibney MJ. Post-prandial factor VII metabolism: the effect of the R353Q and 10bp polymorphisms. *Br J Nutr*, 2000; 83: 467-472.

105. Jørgensen JB, Lunde H, Jensen LE, Whitehead AS and Robertsen B. Serum amyloid A transcription in Atlantic salmon (*Salmo Salar* L.) hepatocytes is enhanced by stimulation with macrophage factors, recombinant human IL-1β, IL-6 and TNFα or bacterial lipopolysaccharide. *Dev Comp Immunol*, 2000; 24: 553-563.

106. Barbaux S, Kluijtmans LAJ and Whitehead AS. An accurate and rapid "multiplex hetero-duplexing" method for genotyping key enzymes involved in folate/homocysteine metabolism. *Clin Chem*, 2000; 46: 907-912.

107. Gaughan DJ, Barbaux S, Kluijtmans LAJ and Whitehead AS. The human and mouse methylenetetrahydrofolate reductase (MTHFR) genes: structure, mRNA expression and linkage with the CLCN6 gene. *Gene*, 2000; 257: 279-289.

108. Cahill M, Karabatzaki M, Donoghue C, Meleady R, Mynett-Johnson LA, Mooney D, Graham IM, Whitehead AS and Shields DC. Thermolabile MTHFR genotype and retinal vascular occlusive disease. *Br J Ophthalmol*, 2001; 85: 88-90.

109. Kluijtmans LAJ and Whitehead AS. Methylenetetrahydrofolate reductase genotypes and predisposition to atherothrombotic disease: evidence that all three MTHFR C677T genotypes confer different levels of risk. *Eur Heart J*, 2001; 22: 294-299.

110. Cahill MT, Gallagher P, Whitehead AS and Acheson RW. Autosomal dominant peripheral cystic retinal patches and non-cystic retinal tufts associated with peripapillary crescents, retinal breaks and uveitis. *Graefe's Arch Clin Exp Ophthalmol*, 2001; 239: 102-108.

111. Rygg M, Uhlar CM, Thorn C, Jensen LE, Gaughan DJ, Varley AW, Munford RS, Göke R, Chen Y and Whitehead AS. *In vitro* evaluation of an enhanced human serum amyloid A (SAA2) promoter-regulated soluble TNF receptor fusion protein for anti-inflammatory gene therapy. *Scand J Immunol*, 2001; 53: 588-595.

112. Gaughan DJ, Kluijtmans LAJ, Barbaux S. McMaster D, Young IS, Yarnell JWG, Evans A and Whitehead AS. The methionine synthase reductase (MTRR) A66G polymorphism is a novel genetic determinant of plasma homocysteine concentrations. *Atherosclerosis*, 2001; 157: 451-456.

[Gaughan DJ, Kluijtmans LAJ, Barbaux S. McMaster D, Young IS, Yarnell JWG, Evans A and Whitehead AS. Corrigendum to "The methionine synthase reductase (MTRR) A66G is a novel genetic determinant of plasma homocysteine concentrations." *Atherosclerosis*, 2003; 167:373.]

113. Jensen LE and Whitehead AS. IRAK1b, a novel alternative splice variant of the Interleukin-1 Receptor Associated Kinase (IRAK), mediates Interleukin-1 signaling and has prolonged stability. *J Biol Chem*, 2001; 276: 29037-29044.

114. Stevenson JP, Redlinger M, Kluijtmans LAJ, Sun W, Algazy K, Giantonio B, Haller DG, Hardy C, Whitehead AS and O'Dwyer PJ. Phase I clinical and pharmacogenetic trial of irinotecan and raltitrexed administered every 21 days to patients with cancer. *J Clin Oncol*, 2001; 19: 4081-4087.

115. Thorn CF and Whitehead AS. Differential glucocorticoid enhancement of the cytokine-driven transcriptional activation of the human acute phase Serum Amyloid A genes, *SAA1* and *SAA2*. *J Immunol*, 2002; 169: 399-406.

116. Doolin M-T, Barbaux S, McDonnell M, Hoess K, Whitehead AS and Mitchell LE. Maternal genetic effects, exerted by genes involved in homocysteine remethylation, influence the risk of spina bifida. *Am J Hum Genet*, 2002; 71: 1222-1226.

117. Thorn CF and Whitehead AS. Differential transcription of the mouse acute phase serum amyloid A genes in response to pro-inflammatory cytokines. *Amyloid: J Protein Folding Disord*, 2002; 9: 229-236.

118. Meleady R, Ueland PM, Blom H, Whitehead AS, Refsum H, Daly LE, Vollset SE, Donoghue C, Giesendorf B, Graham IM, Ulvik A, Zhang Y and Bjorke-Monsen AL. Thermolabile methylenetetrahydrofolate reductase, homocysteine and cardiovascular risk. The European Concerted Action Project. *Am J Clin Nutr*, 2003; 77: 63-70.

119. Kluijtmans LAJ, Young IS, Boreham CA, Murray L, McMaster D, McNulty H, Strain JJ, McPartlin J, Scott JM and Whitehead AS. Genetic and nutritional factors contributing to hyperhomocysteinemia in young adults. *Blood*, 2003; 101: 2483-2488.

120. Jensen LE and Whitehead AS. Pellino2 activates the mitogen activated protein kinase pathway. *FEBS Lett*, 2003; 545: 199-202.

121. Fallon UB, Virtamo J, Young I, McMaster D, Ben-Shlomo Y, Wood N, Whitehead AS and Davey Smith G. Homocysteine and cerebral infarction in Finnish male smokers. *Stroke*, 2003; 34: 1359-1363.

122. Jensen LE and Whitehead AS. Expression of alternatively spliced interleukin-1 receptor accessory protein mRNAs is differentially regulated during inflammation and apoptosis. *Cell Signal*, 2003; 15: 793-802.

123. Brown KS, Kluijtmans LAJ, Young IS, Woodside J, Yarnell JWG, McMaster D, Murray L, Evans AE, Boreham CA, McNulty H, Strain JJ, Mitchell LE and Whitehead AS. Genetic evidence that nitric oxide modulates homocysteine: the *NOS3* G894T genotype is a risk factor for hyperhomocysteinemia. *Arterioscler Thromb Vasc Biol*, 2003; 23: 1014-1020.

124. Jensen LE and Whitehead AS. Pellino 3, a novel member of the Pellino protein family, promotes activation of cJun and Elk-1 and may act as a scaffolding protein. *J Immunol*, 2003; 171: 1500-1506.

125. Thorn CF, Lu Z-Y and Whitehead AS. Differential regulation of the human acute-phase serum amyloid A genes, *SAA1* and *SAA2*, by glucocorticoids in hepatic and epithelial cells. *Eur J Immunol*, 2003; 33: 2630-2639.

126. Jensen LE and Whitehead AS. Ubiquitin activated tumor necrosis factor receptor associated factor-6 (TRAF6) is recycled via deubiquitination. *FEBS Lett*, 2003: 553; 190-194.

127. Brown KS, Kluijtmans LAJ, Young IS, McNulty H, Mitchell LE, Yarnell JW, Woodside JV, Boreham CA, McMaster D, Murray L, Strain JJ and Whitehead AS. The thymidylate synthase tandem repeat polymorphism is not associated with homocysteine concentrations in healthy young subjects. *Hum Genet*, 2004; 114: 182-185.

128. Veronese ML, Stevenson JP, Sun W, Redlinger M, Algazy K, Giantonio B, Hahn S, Vaughn D, Thorn CF, Whitehead AS, Haller DG and O'Dwyer PJ. Phase I trial of UFT/Leucovorin and Irinotecan in patients with advanced cancer. *Eur J Cancer*, 2004; 40: 508-514.

129. Thorn CF, Lu Z-Y and Whitehead AS. Regulation of the human acute phase serum amyloid A genes by TNFα in hepatic and epithelial cell lines. *Scand J Immunol*, 2004; 59: 152-158.

130. Brown KS, Cook M, Hoess K, Whitehead AS and Mitchell LE. Evidence that the risk of spina bifida is influenced by genetic variation at the *NOS3* locus. *Birth Defects Research (Part A) Clin Mol Teratol*, 2004; 70: 101-106.

131. Brown KS, Kluijtmans LAJ, Woodside JV, Young IS, Boreham CA, Murray L, McMaster D, McNulty H, Strain JJ, Mitchell LE and Whitehead AS. The 5,10-methylenetetrahydrofolate reductase C677T polymorphism interacts with smoking to increase homocysteine. *Atherosclerosis*, 2004; 174: 315-322.

132. Matsumura T, Hayashi H, Takii T, Thorn CF, Whitehead AS, Inoue J and Onozaki K. TGFβ down-regulates IL-1α-induced TLR2 expression in murine hepatocytes. *J Leukocyte Biol*, 2004; 75: 1056-1061.

133. O'Hara R, Murphy EP, Whitehead AS, FitzGerald O and Bresnihan B. Local expression of the serum amyloid A and formyl peptide receptor-like 1 genes in synovial tissue is associated with matrix metalloproteinase production in patients with inflammatory arthritis. *Arthritis and Rheumatism*, 2004; 50: 1788-1799.

134. Jensen LE, Wall AM, Cook M, Hoess K, Thorn CF, Whitehead AS and Mitchell LE. A common *ABCC2* promoter polymorphism is not a determinant of the risk of spina bifida. *Birth Defects Research (Part A) Clin Mol Teratol*, 2004; 70: 396-399.

135. Kane D, Jensen LE, Grehan S, Whitehead AS, Bresnihan B and FitzGerald O. Quantitation of metalloproteinase gene expression in rheumatoid and psoriatic arthritis synovial tissue distal and proximal to the cartilage-pannus junction. *J Rheumatol*, 2004; 71: 1274-1280.

136. Jensen LE and Whitehead AS. The 3'-untranslated region of the membrane bound IL-1R Accessory Protein (IL-1RAcP) mRNA confers tissue specific destabilization. *J Immunol*, 2004; 173: 6248-6258.

137. Woodside JV, McMahon R, Gallagher AM, Cran GW, Boreham CA, Murray LJ, Strain JJ, McNulty H, Robson PJ, Brown KS, Whitehead AS, Savage M and Young IS. Total homocysteine is not a determinant of arterial pulse wave velocity in young healthy adults. *Atherosclerosis*, 2004; 177: 337-344.

138. Jensen LE, Barbaux S, Hoess K, Fraterman S, Whitehead AS and Mitchell LE. The human *T*-locus and spina bifida risk. *Hum Genet*, 2004; 115: 475-482.

139. Kelly CB, McDonnell AP, Johnston TG, Mulholland C, Cooper SJ, McMaster D, Evans A and Whitehead AS. The *MTHFR* C677T polymorphism is associated with depressive episodes in patients from Northern Ireland. *J Psychopharmacol*, 2004; 18: 567-571.

140. Kealey C, Brown KS, Woodside JV, Young IS, Murray L, Boreham CA, McNulty H, Strain JJ, McPartlin J, Scott JM and Whitehead AS. A common insertion/deletion polymorphism of the thymidylate synthase (*TYMS*) gene is a determinant of red blood cell folate and homocysteine concentrations. *Hum Genet*, 2005; 116: 347-353.

141. Jensen LE, Hoess K, Whitehead AS and Mitchell LE. The *NAT1* C1095A polymorphism, maternal multivitamin use and smoking, and the risk of spina bifida. *Birth Defects Research (Part A) Clin Mol Teratol*, 2005; 73: 512-516.

142. Jensen LE, Etheredge AJ, Brown KS, Mitchell LE and Whitehead AS. Maternal genotype for the monocyte chemoattractant protein-1 A(-2518)G promoter polymorphism is associated with the risk of spina bifida in offspring. *Am J Med Genet Part A*, 2006; 140A: 1114-1118.

143. Von Feldt JM, Scalzi LV, Cucchiara AJ, Morthala S, Kealey C, Flagg SD, Genin A, Van Dyke AL, Nackos E, Chander A, Gehrie E, Cron RQ and Whitehead AS. Homocysteine levels and disease duration independently correlate with coronary artery calcification in systemic lupus erythematosus patients. *Arthritis and Rheumatism*, 2006; 54: 2220-2227.

144. Jensen LE, Hoess K, Mitchell LE and Whitehead AS. Loss of function polymorphisms in *NAT1* protect against spina bifida. *Hum Genet*, 2006; 120: 52-57.

145. Brown KS, Huang Y, Jian W, Lu Z-Y, Blair IA and Whitehead AS. Mild folate deficiency induces a pro-atherosclerotic phenotype in endothelial cells. *Atherosclerosis*, 2006; 189: 133-141.

146. Stanislawska-Sachadyn A, Jensen LE, Kealey C, Woodside JV, Young IS, Scott JM, Murray L, Boreham CA, McNulty H, Strain JJ and Whitehead AS. Association between the NAT1 1095C>A polymorphism and homocysteine concentrations. *Am J Med Genet Part A*, 2006; 140A: 2374-2377.

147. Huang Y, Lu Z-Y, Brown KS, Whitehead AS and Blair IA. Quantification of intracellular homocysteine by stable isotope dilution liquid chromatography/tandem mass spectrometry. *Biomed Chromatogr*, 2007; 21: 107-112.

148. Kealey C, Chen Z, Thorn CF, Christie J, Samaha FF, Whitehead AS, Price M and Kimmel S. Warfarin and CYP2C9 genotype: possible ethnic variation in warfarin sensitivity. *Pharmacogenomics*, 2007; 8: 217-225.

149. Brown KS, Nackos E, Morthala S, Jensen LE, Whitehead AS and Von Feldt JM. Monocyte Chemoattractant Protein-1: Plasma concentrations and A(-2518)G promoter polymorphism of its gene in Systemic Lupus Erythematosus. *J Rheumatol*, 2007; 34: 760-766.

150. Schelleman H, Chen Z, Whitehead AS, Christie J, Price M, Kealey C, Brensinger CM, Newcomb CW, Thorn CF, Samaha FF and Kimmel SE. Warfarin response and vitamin K epoxide reductase complex 1 in African Americans and Caucasians. *Clin Pharmacol Ther*, 2007; 81: 742-747.

151. Laing ME, Dicker P, Moloney FJ, Ho WL, Murphy GM, Conlon P, Whitehead AS, Shields DC. Association of methylenetetrahydrofolate reductase polymorphism and the risk of squamous cell carcinoma in renal transplant patients. *Transplantation*, 2007; 84: 113-116.

152. Casley WL, Ogrodowczyk C, Larocque L, Jaentschke B, Leblanc-Westwood C, Menzies JA, Whitehouse L, Hefford MA, Aubin RA, Thorn CF, Whitehead AS and Li X. Cytotoxic doses of ketoconazole affect expression of a subset of hepatic genes. *J Toxicol Environ Health Part A*, 2007; 70: 1946-1955.

153. Kimmel SE, Christie J, Kealey C, Chen Z, Price M, Thorn CF, Brensinger CM, Newcomb CW and Whitehead AS. Apolipoprotein E (APOE) genotype and warfarin dosing among Caucasians and African Americans. *Pharmacogenomics J*, 2008; 8: 53-60.

154. Stanislawska-Sachadyn A, Woodside JV, Brown KS, Young IS, Murray L, McNulty H, Strain JJ, Boreham CA, Scott JM, Whitehead AS and Mitchell LE. Sex differences in the determinants of homocysteine concentrations. *Mol Gen Metab*, 2008; 93: 355-362.

155. Stanislawska-Sachadyn A, Brown KS, Mitchell LE, Woodside JV, Young IS, Scott JM, Murray L, Boreham CA, McNulty H, Strain JJ and Whitehead AS. An insertion/deletion polymorphism of the dihydrofolate reductase (*DHFR*) gene is associated with serum and red blood cell folate concentrations in women. *Hum Genet*, 2008; 123: 289-295.

156. Huang Y, Khartulyari S, Morales M, Stanislawska-Sachadyn A, Von Feldt JM, Whitehead AS and Blair IA. Quantification of key red blood cell folates from subjects with defined MTHFR 677C>T genotypes using stable isotope dilution liquid chromatography/mass spectrometry. *Rapid Commun Mass Spectrom*, 2008; 22: 2403-2412.

157. Summers C, Hammons AL, Mitchell LE, Woodside JV, Young IS, Yarnell JWG, Evans A and Whitehead AS. Influence of the cystathionine β-synthase 844ins68 and 5,10-methylene tetrahydrofolate reductase 677C>T polymorphisms on folate and homocysteine concentrations. *Eur J Hum Genet*, 2008; 16: 1010-1013.

158. Schelleman H, Chen J, Chen Z, Christie J, Newcomb CW, Brensinger CM, Price M, Whitehead AS, Kealey C, Thorn CF, Samaha FF and Kimmel SE. Dosing algorithms to predict warfarin maintenance dose in Caucasians and African Americans. *Clin Pharmacol Ther*, 2008; 84: 332-339.

159. Gibson A, Woodside JV, Young IS, Sharpe PC, Mercer C, Patterson CC, Kluijtmans LAJ, Whitehead AS, Evans A. Effect of alcohol intervention on homocysteine and B-vitamin concentration in healthy male volunteers. *Q J Med*, 2008; 101: 881-887.

160. Lu Z-Y, Morales M, Khartulyari S, Mei M, Murphy KM, Stanislawska-Sachadyn A, Summers CM, Huang Y, Von Feldt JM, Blair IA, Mitchell L, Whitehead AS. Genetic and biochemical determinants of serum concentrations of monocyte chemoattractant protein-1, a potential neural tube defect risk factor. *Birth Defects Research (Part A) Clin Mol Teratol*, 2008; 82: 736-741.

161. Summers C, Cucchiara AJ, Nackos E, Hammons AL, Mohr E, Whitehead AS and Von Feldt JM. Functional polymorphisms of folate metabolizing enzymes in relation to homocysteine concentrations in systemic lupus erythematosus patients. *J Rheumatol*, 2008; 35: 2179-2186.

162. Keating BJ, Tischfield S, Bhangale T, Murray SS, Price TS, Li M, Barrett JC, Farlow DN, Chandrupatla H, Papanicolaou G, Ajmal S, Hansen M, Restine S, Ungar L, de Bakker PI, Taylor K, Edmunson A, Grant SFA, Galver L, Gai X, Shaikh T, Wang SS, Kim CE, Fornage M, Noveral J, Bharathi NS, Groop L, Hall AS, Hattersley AT, Zeggini E, Patterson N, Molony C, Ouwehand W, Price A, Reich D, Drake T, Munroe P, Caulfield M, Boerwinkle E, Lusis AJ, Whitehead AS, Samani N, Schadt E, Cappola T, Wilson JG, McCarthy MI, Kathiresan S, Hakonarson H, Reilly M, Anand SS, Gabriel SB, Engert JC, Nickerson DA, Rader DJ, Hirschhorn JN, FitzGerald GA. Concept and design of a gene-centric 50K SNP array for large-scale genetic interrogation of vascular disease studies. *PLoS ONE*, 2008; 3(10): e3583.

163. Edgar KS, Woodside JV, Skidmore P, Cardwell C, Farrell K, McKinley MC, Young IS, Whitehead AS, Gey KF, Yarnell JWG, and Evans AE. Thiol and cardiovascular risk factor status in a male Northern Irish population. *Int J Vitam Nutr Res*, 2008; 78: 208-216.

164. Lu Z-Y, Jensen LE, Huang Y, Kealey C, Blair IA and Whitehead AS. The up-regulation of monocyte chemoattractant protein-1 (MCP-1) in endothelial cells maintained in low folate conditions is mediated by the p38 MAPK pathway. *Atherosclerosis*, 2009; 205: 48-54.

165. Mitchell LE, Morales M, Khartulyari S, Huang Y, Murphy KM, Mei M, Von Feldt JM, Blair IA, Whitehead AS. Folate and homocysteine phenotypes: comparative findings using research and clinical laboratory data. *Clin Biochem*, 2009; 42: 1275-1281.

166. Stanislawska-Sachadyn A, Mitchell LE, Woodside JV, Buckley P, Kealey C, Young IS, Scott JM, Murray L, Boreham CA, McNulty H, Strain JJ and Whitehead AS. The reduced folate carrier (*SLC19A1*) 80G>A polymorphism is associated with red cell folate concentrations among women. *Ann Hum Genet*, 2009; 73: 484-491.

167. Hammons AL, Summers C, Lu Z-Y, Woodside JV, Young IS, Scott JM, Murray L, Boreham CA, McNulty H, Strain JJ, Mitchell LE and Whitehead AS. Folate/homocysteine phenotype and *MTHFR* 677C>T genotype are determinants of MCP-1 concentrations in young women. *Clin Immunol*, 2009; 133: 132-137.

168. Summers CM, Mitchell LE, Stanislawska-Sachadyn A, Baido SF, Blair IA, Von Feldt JM and Whitehead AS. Genetic and lifestyle variables associated with homocysteine concentrations and the distribution of folate derivatives in healthy premenopausal women. *Birth Defects Research (Part A) Clin Mol Teratol*, 2010; 88: 679-688.

169. Stanislawska-Sachadyn A, Woodside JV, Sayers CM, Yarnell JW, Young IS, Evans AE, Mitchell LE and Whitehead AS. The transcobalamin (*TCN2*) 776C>G polymorphism affects homocysteine concentrations among subjects with low vitamin B12 status. *Eur J Clin Nutr*, 2010; 64: 1338-1343.

170. Hammons AL, Summers CM, Jochems J, Arora JS, Zhang S, Blair IA and Whitehead AS. Pemetrexed alters folate phenotype and inflammatory profile in EA.hy 926 cells grown under low-folate conditions. *Eur J Pharmacol*, 2012; 696: 12-17.

171. Baldwin DA, Sarnowski CP, Reddy SA, Blair IA, Clapper M, Lazarus P, Li M, Muscat JE, Penning TM, Vachani A and Whitehead AS. Development of a genotyping microarray for studying the role of gene-environment interactions in lung cancer. *J Biomol Tech* 2013, 24: 198-207.

172. Summers CM, Hammons AL, Arora J, Zhang S, Jochems J, Blair IA and Whitehead AS. Methotrexate modulates folate phenotype and inflammatory profile in endothelial cells. *Eur J Pharmacol*, 2014; 696: 12-17.

173. Kennedy GT, Mitra N, Patel P, Maletteri KD, Christie JD, Baldwin D, Penning TM, Langer CJ, Rebbeck TR, Whitehead AS and Vachani A. Mitochondrial DNA content and risk of lung cancer. *Manuscript submitted*.

174. Zanetti KA, Wang Z, Aldrich M, Amos CI, Blot WJ, Bowman ED, Burdette L, Cai Q, Caporaso N, Chung CC, Gillanders EM, Haiman CA, Hansen HM, Henderson BE, Kolonel LN, Le Marchand L, Li S, McNeill LH, Ryan BM, Schwartz AG, Sison JD, Spitz M, Tucker M, Wenzlaff AS, Wiencke JK, Wilkens L, Wrensch MR, Wu X, Zheng W, Zhou W, Christiani D, Palmer JR, Penning TM, Rieber AG, Rosenberg L, Ruiz-Narvaez EA, Su L, Vachani A, Wei Y, Whitehead AS, Chanock SJ and Harris CC. Genome-wide association study confirms lung cancer susceptibility loci on chromosomes 5p15 and 15q25 in an African-American population. *Manuscript submitted*.

175. Vachani A, Vitale S, Bagley SJ, Langer CJ, Aggarwal C, Evans TL, Alley EW, Cohen RB, Werner LD, Mesaros CA, Zhang S, Blair IA and Whitehead AS. Pre-treatment red blood cell 5-methytetrahydrofolate levels and response to pemetrexed in stage IV adenocarcinoma of the lung. *Manuscript in preparation*.

176. Von Feldt JM, Summers CM, Cucchiara A, Morales M, Nackos E, Murphy KM, Baxter KB, Ladd M, Stanislawska-Sachadyn A, Khartulyari S, Huang Y, Kealey C, Blair IA, Thomas P, Murphy F, Mitchell LE and Whitehead AS. Genetic factors associated with toxicity and pathogenic folate/homocysteine phenotypes in rheumatoid arthritis patients treated with methotrexate. *Manuscript in preparation*.

177. Vachani A, Mesaros AC, Vitale S, Hammons AL, Zhang S, Arora JS, Blair IA, Lazarus P, Muscat JE, Baldwin DA, Li M, Clapper M, Travaline J, and Penning TM and Whitehead AS. The contribution of genetic and phenotypic variables of folate metabolism to risk of lung cancer. *Manuscript in preparation*.

178. Hammons AL, Cucchiara A, Nackos E, Murphy KM, Morales M, Baxter KB, Stanislawska-Sachadyn A, Khartulyari S, Huang Y, Kealey C, Blair IA, Thomas P, Murphy F, Mitchell LE, Von Feldt JM and Whitehead AS. Circulating levels of the chemokines MCP-1 and IL-8 are increased in rheumatoid arthritis patients following methotrexate treatment. *Manuscript in preparation*.

179. Muscat JE, Vachani A, Blair IA, Lazarus P, Baldwin DA, Li M, Clapper M, Travaline J, Vitale S, Penning TM and Whitehead AS. Variants of Cytochrome P450 2E1, a key enzyme in the metabolism of benzene and other carcinogenic toxicants, are associated with increased risk of lung cancer. *Manuscript in preparation*.

Research Letters:

1. Kirke PN, Mills JL, Whitehead AS, Molloy A and Scott JM. Methylenetetrahydrofolate reductase and neural tube defects. *Lancet*, 1996; 348: 1037-1038.

2. Harmon DL, Ben-Shlomo Y, Ramsbottom D, Davey-Smith G and Whitehead AS. The thermolabile variant of 5,10-methylenetetrahydrofolate reductase is not a risk factor for Parkinson's Disease. *J Neurol Neurosurg Psychiatry*,1997; 62: 671.

3. Harmon DL, McMaster D, Shields DC, Whitehead AS and Rea IM. *MTHFR* thermolabile genotype frequencies and longevity in Northern Ireland. *Atherosclerosis*, 1997; 131: 137-138.

4. Woodside JV, Yarnell JWG, McMaster D, Young IS, McCrum EE, Evans AE, Gey KF, Harmon DL and Whitehead AS. Vitamin B6 status, MTHFR and hyperhomocysteinaemia. *Q J Med*, 1997; 90: 551-552.

5. Kluijtmans LAJ and Whitehead AS. Reduced frequency of the thermolabile methylenetetra-hydrofolate reductase (MTHFR) genotype in the elderly. *Atherosclerosis*, 1999; 146: 395-397.

6. Jensen LE and Whitehead AS. ELAM-1 E-selectin promoter contains an inducible AP-1/CREB Site and is not NF-kappa B-specific. *Biotechniques*, 2003; 35: 54-56.

Editorials:

1. Ben-Shlomo Y, Whitehead AS and Davey-Smith G. Parkinson's, Alzheimer's and Motor Neurone Disease: Clinical and pathological overlap may suggest common genetic and environmental factors. *Br Med J*, 1996; 312: 724.

2. Whitehead AS and FitzGerald GA. Twenty First Century Phox: Not yet ready for widespread screening. *Circulation*, 2001; 103: 7-9.

Medical/Scientific Correspondence:

1. Whitehead AS. Changes in MTHFR genotype frequencies over time. (Letter) *Lancet*, 1998; 352: 1784.

2. Whitehead AS, Molloy AM, Ramsbottom D, Weir DG, Kirke PN, Mills JL, Gallagher PM and Scott JM. Gene-gene interactions and neural tube defects. (Letter) *Clinical Genetics*, 1999; 55: 133-134.

3. Woodside JV, Young IS, Yarnell JWG, McMaster D, Patterson CC, McCrum EE, Evans A, Gey KF, Harmon DL and Whitehead AS. Effects of folic acid on homocysteine in persons classified by methylenetetrahydrofolate reductase genotype. (Letter; reply to Duell PB and Malinow MR) *Am J Clin Nutrition*, 1999; 69: 1286-1289.

Published Meeting Proceedings (non-peer reviewed):

1. Sipe JD, Woo P, Goldberger G, Cohen AS and Whitehead AS. Characterization of two distinct serum amyloid A gene products defined by their complementary DNAs. In "Amyloidosis: Proceedings of the IV International Amyloid Symposium." G Glenner et al. (eds) Plenum, New York. 1986; pp 57-60.

2. Whitehead AS. Organization, structure and expresion of pentraxin genes. In "Acute phase proteins in the acute phase response: "Proceedings of the XIII Argenteuil Symposium". MB Pepys (ed) Springer-Verlag, 1990; pp 47-57.

3. Whitehead AS, Ward P, Tan S, Naughten E, Kraus JP, Sellar GC, McConnell DJ, Graham I and Gallagher P. The molecular genetics of homocystinuria, hyperhomocysteinaemia, and premature vascular disease in Ireland. In "Second workshop on methionine metabolism: molecular mechanisms and clinical implications." JM Mato and A Caballero (eds). Consejo Superior De Investigaciones Cientificas, Madrid, 1994; pp 70-74.

4. Scott JM, Weir DG, Molloy A, McPartlin J, Whitehead AS, Daly L, Kirke P and Mills J. The role of folate in neural tube defects. In "Third workshop on methionine metabolism: molecular mechanisms and clinical implications." JM Mato and A Caballero (eds) Consejo Superior De Investigaciones Cientificas, Madrid, 1996; pp 67-73.

5. Molloy AM, Ramsbottom D, McPartlin J, Whitehead AS, Weir DG and Scott JM. 5,10-Methylenetetrahydrofolate reductase C677T genotypes and folate related risk factors for neural tube defects. In "Chemistry and Biology of Pteridines and Folates" Pfleiderer W and Rokos H (eds.) Blackwell, Oxford, 1997; pp 291-296.

Reviews:

1. Fey G, Domdey H, Wiebauer K, Whitehead AS and Odink K. Structure and expression of the C3 gene. *Springer Seminar Immunopathol*, 1983; 6: 119-147.

2. Whitehead AS and Sackstein R. Molecular biology of the human and mouse MHC Class III genes: phylogenetic conservation, genetics and regulation of expression. *Immunol Rev*, 1985; 87: 185-208.

3. Sellar GC and Whitehead AS. The acute phase response and major acute phase proteins in early host defence. *J Biomed Sciences*, 1993, 4: 1-9.

4. Steel DM and Whitehead AS. The major acute phase proteins: C-reactive protein, serum amyloid P component and serum amyloid A protein. *Immunology Today*, 1994; 15: 81-88.

5. Jensen LE and Whitehead AS. Regulation of serum amyloid A protein expression during the acute-phase response. *Biochem J*, 1998; 334: 489-503.

6. Gaughan DJ and Whitehead AS. Function and biological applications of catalytic nucleic acids. *Biochim Biophys Acta*, 1999; 1445: 1-20.

7. Cunnane G and Whitehead AS. Amyloid precursors and amyloidosis in rheumatoid arthritis. *Baillieres Best Pract Res Clin Rheumatol*, 1999; 13: 615-628.

8. Uhlar CM and Whitehead AS. Serum Amyloid A: the major vertebrate acute phase protein. *Eur J Biochem*, 1999; 265: 501-523.

9. Mitchell LE, Adzick NS, Melchionne J, Pasquariello PS, Sutton LN and Whitehead AS. Spina Bifida. *Lancet*, 2004; 364: 1885-1895.

10. Bennatti E, Murphy A, Cambien F, Whitehead AS, Archbold GPR, Young IS, Rea IM. BELFAST centenarians: A case of optimized cardiovascular risk? *Curr Pharm Des*, 2010; 16:789-795.

Book Chapters:

1. Steel DM and Whitehead AS. The acute phase response. In "Natural immunity - humoral factors." E Sim and MA Kerr (eds). Oxford University Press, Oxford, UK. 1993; pp 1-29.

2. Mitchell LE, Finnell RH and Whitehead AS. Aetiology and Prevention of Spina Bifida. In "Recent Advances in Paediatrics." TJ David (ed). Royal Society of Medicine Press, London, UK. 2006.

Patents:

1. Sipe JD, Whitehead AS, Cohen AS and Skinner M. Human prealbumin and related methods and products. *U.S. Patent Number 4,816,388*. Issued March 28th, 1989.

2. Doyle J, Hobson HA and Whitehead AS. Method for the quantitative measurement of human acute phase serum amyloid A protein. *Irish Patent Number S73217*. Issued April 22nd, 1997.

3. Doyle J, Hobson HA and Whitehead AS. Method for the quantitative measurement of human acute phase serum amyloid A protein.*U.S. Patent Number 6,194,163*. Issued February 27th, 2001.

4. Whitehead AS. Methods for determining steroid responsiveness. *U.S. Patent Number 6,878,518 B2*. Issued April 12th, 2005.

5. Whitehead AS. Methods for determining drug responsiveness. *U.S. Patent Number 7,666,608 B2*. Issued February 23rd, 2010.

6. Whitehead AS and Blair IA. Method for assessment of folate phenotypes, disease risk, and response to therapy. U.S. Provisional Patent Application filed 8th July, 2008; Conversion to U.S Full Patent Application Filed 8th July, 2009.

7. Whitehead AS. Methods for determining drug responsiveness. *U.S. Patent Number 7,745,138 B2*. Issued June 29th, 2010.

Ph.D. Students Graduated:

1996

Marie Walsh:
The genetics and expression of the human serum amyloid P gene.
(Trinity College, University of Dublin, Ireland)

Christine C McCormack:
Expression of human recombinant A-SAA and its use in the development of a specific ELISA.
(Trinity College, University of Dublin, Ireland.

Aileen Butler:
Molecular genetics of the mouse serum amyloid A gene family.
(Trinity College, University of Dublin, Ireland)

Sharon Grehan:
Production of a recombinant mouse interleukin-1 receptor antagonist (rmIL-1ra) and its use as an inflammatory mediator.
(Trinity College, University of Dublin, Ireland)

1997

Liselotte E Jensen:
Major acute phase proteins: regulation of expression in mammals and characterization in salmonids.
(University of Aarhus, Denmark; Jointly supervised by Dr. Jens Jensenius).

Clarissa M Uhlar:
Serum amyloid A: gene characterization, evolution and transcriptional regulation.
(Trinity College, University of Dublin, Ireland)

Paula M Gallagher:
Pathogenicity of mutations in the genes for the enzymes cystathionine-β-synthase and methylene-tetrahydrofolate reductase in premature vascular disease and spina bifida: a genetic study.
(Trinity College, University of Dublin, Ireland)

Derval J Gaughan:
Design, synthesis and characterization of hammerhead ribozymes directed against serum amyloid A mRNA.
(Trinity College, University of Dublin, Ireland)

1998

Daniel Longley:
Translational control of human serum amyloid A protein.
(Trinity College, University of Dublin, Ireland)

1999

Rose M. O'Neill:
Serum amyloid A transcriptional regulation in the human endothelial cell line, ECV304.
(Trinity College, University of Dublin, Ireland)

2001

Caroline F. Thorn:
Comparative analysis of human and mouse acute phase serum amyloid A gene expression.
(Trinity College, University of Dublin, Ireland)

2005

Karen S. Brown:
The folate metabolic cycle: genetic modulation and biological consequences.
(University of Pennsylvania, Philadelphia, USA)

2008

Zhi-Yong Lu:
The relationship between *MTHFR 677C>T* genotype, folate/homocysteine phenotype, and monocyte chemoattractant-1 concentrations.
(University of Pennsylvania, Philadelphia, USA)

2011

Carolyn Summers
The effects of methotrexate and genetic polymorphisms on the folate/homocysteine pathway.
(University of Pennsylvania, Philadelphia, USA)

2012

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Folate metabolism and therapeutic intervention with antifolate drugs for the treatment of rheumatoid arthritis.
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