

**Curriculum vitae**

**Geoffrey Hale**

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Current posts Freelance Scientist and Consultant  
Managing Director, Bioarchitech  
Chair of board of directors, The Native Antigen Company  
Non-executive director, Absolute Antibody

Date of Birth 2nd September 1953

Nationality British

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University Fitzwilliam College, University of Cambridge

**Undergraduate** BA degree course: Natural Sciences

1971-1972	Biology of cells, Chemistry, Physics, Maths	Class 1
1972-1973	Biochemistry, Chemistry, Exp. Psychology	Class 1
1973-1974	Biochemistry	Class 2.1

#### Awards

1972-1973 Exhibition  
1973-1974 Scholarship  
1972, 1973 Examination prizes

**Postgraduate** PhD: Department of Biochemistry, Cambridge.

1974-1977 Supervisor Prof. R.N. Perham  
Thesis "Structure of the pyruvate dehydrogenase complex of E. coli."

#### Academic Career

1977-1980 Research Assistant, Department of Biochemistry, Cambridge.

*Employed on an SRC project grant, I continued my studies on the structure and function of the pyruvate dehydrogenase complex, using a wide range of protein chemical and physical biochemical techniques.*

1980-1984 Research Assistant, Department of Pathology, Cambridge.  
1985-1986 Research Associate, Department of Pathology, Cambridge.  
1986-1995 Senior Research Associate, Department of Pathology, Cambridge

*During this time I worked with Prof. H. Waldmann on therapeutic monoclonal antibodies, funded first by an MRC project grant, then by MRC programme grants and the Kay Kendall Research Fund. We identified a wide range of antibodies against human*

*leukocytes, defined rules for using them to clear target cells and used many of them in clinical trials of immunosuppression and tumour therapy.*

1989-1995 Administrative payment and merit award.

1990-1995 Manager, Therapeutic Antibody Centre, Regional Blood Transfusion Centre, Cambridge.

*I set up a group with five staff to produce pilot scale quantities of monoclonal antibodies for the clinical trials according to appropriate quality guidelines. I designed and supervised the construction of a clean room facility and was responsible for overall supervision of the antibody production as well as development of new techniques. In addition, I maintained regular liaison with a large number of clinical teams using the antibodies for trials.*

1995-1998 Research Lecturer, Dunn School of Pathology, Oxford.

1998-2000 Reader in Therapeutic Immunology, Dunn School of Pathology, Oxford

2000-2007 Professor of Therapeutic Immunology, Dunn School of Pathology, Oxford

1995-2007 Research Director, Therapeutic Antibody Centre, Oxford

2004-now Qualified Person, recognised by MHRA for release of Investigational Medicinal Products.

2007-2016 Visiting Professor of Therapeutic Immunology, Dunn School of Pathology, Oxford

*During 1994-5 I designed and supervised the construction of a new purpose-built GMP facility for pilot production of therapeutic biologicals. I established a team of 8-9 staff, training them in good manufacturing practice and continuing antibody production and clinical liaison. We brought more than 25 new therapeutic antibodies to the clinic involving trials in more than 5000 patients. We worked closely with numerous Biotech companies to help in the commercial development of several projects. In 2001, Campath was approved by the FDA and EMEA for treatment of chronic lymphocytic leukaemia. Other antibodies, including CD4 and CD3 are currently in commercial development for induction of tolerance to protein therapeutics and treatment of autoimmune diseases. In June 2004, the TAC received a Manufacturer's Authorisation from the Medicines and Healthcare Products Regulatory Agency (MHRA), one of the first following the introduction of this scheme in May 2004. It has now changed focus to work on vaccines and gene-therapy products.*

## **Commercial Career**

2002-2004 Founder and Consultant, BioAnaLab Limited

2004-2010 Chief Executive Officer/Managing Director, BioAnaLab Limited

2010-2011 Chief Scientist, Millipore BioPharma Services, Merck Millipore

*I founded BioAnaLab as a spin-out based on the bioanalytical techniques developed at the TAC. The Company provides contract analytical services to the pharmaceutical industry and specialises in the analysis of biologics such as antibodies, vaccines, growth factors and cytokines. Technologies include ELISA, flow cytometry and surface plasmon resonance, and are applied to batch release, formulation, pharmacokinetics and immunogenicity studies in the course of pre-clinical and clinical trials. The company grew to employ 50 staff by 2009 when it was acquired by Millipore Corporation. I continued to manage the company through the integration and subsequent acquisition of Millipore by Merck KGaA.*

2011-now Chairman of the board of directors, The Native Antigen Company Limited  
2011-now Sole Trader, Geoff Hale Developments  
2012-now Director, Absolute Antibody Limited  
2013-2015 CEO and Director, Mablyte Limited  
2015-now Managing Director, Bioarchitech Ltd

*I am a founder, investor and board director of a number of biotechnology companies with interests in infectious disease, immunology, biological manufacture and testing and oncology.*

## Teaching

1974-1980 Supervisor for Fitzwilliam College in Biology of Cells and Biochemistry.  
Assistant demonstrator in practical classes for Biochemistry.  
1980 Tutor for St. Andrew's Tutorial College, Cambridge.  
1980-1995 Assistant demonstrator in practical classes in Pathology.  
Supervisor of numerous Part 2 research project students.  
Supervisor of Immunology option (Part 2 Pathology)  
Assistant lecturer in Pathology.  
1981-2004 Supervisor of several trainee technicians (from Youth Training scheme to Higher National Diploma).  
1984-1996 Supervisor of three PhD students.  
1993-2013 Supervisor of numerous short-term work experience students  
1996-2002 Occasional lecturer on various immunology courses (Oxford, London, Cranfield Universities)  
1997-2002 Lecturer in Biochemistry (Biotechnology option course)  
2000-now Lecturer in Pathology (Immunology FHS option course)  
2006-2011 Member of curriculum advisory committee, Brookes University  
2013-now Lecturer in Biochemistry

*Although teaching has not been my main job, I have enjoyed a wide variety of teaching experience; lecturing to large groups, conducting small tutorial classes, and demonstrating practical techniques to classes and individuals.*

## Publications

1977-1992 Co-author of 17 original articles and one meeting abstract about the structure and function of pyruvate dehydrogenase - see enclosed list.  
1982-now Author or co-author of >390 reviews, original articles and meeting abstracts connected with therapeutic uses of monoclonal antibodies - see enclosed list.

*In addition to publications, the nature of my work in the TAC and at BioAnaLab necessitated the writing of a large number of formal documents, including standard operating procedures, annual reports, commercial contracts, reports of clinical trials etc.*

## Professional Societies

- 1981 British Society for Immunology.
- 1992-2004 International Society for Hematotherapy and Graft Engineering.
- 1997-2001 European Society for Animal Cell Technology
- 1998-2000 British Association for the Advancement of Science
- 1998-2000 American Association for the Advancement of Science
- 2004-2011 American Association for Pharmaceutical Sciences

## Committee Membership

- 2006-2012 NC3Rs/ABPI Biologicals Expert Working Group

## Invited lectures

- 1984 Royal College of Pathologists symposium on Developments in Bone Marrow Transplantation. London.  
LRF workshop on Bone Marrow Transplantation. London.
- 1986 12th Annual meeting of the European Cooperative group for Bone Marrow Transplantation. Courmayeur.
- 1987 4th International symposium on therapy for acute Leukemias, Rome.  
Lymphokines in Haemopoiesis. London
- 1988 Special Leukaemia Review - East Anglia IMLS. Cambridge  
Clinical Use of Monoclonal antibodies. Amsterdam.  
14th Annual meeting of the European Cooperative Group for Bone Marrow Transplantation. Chamonix.  
Paediatric Bone Marrow Transplantation meeting. Manchester.  
British Council course on Bone Marrow Transplantation. London.  
Leukaemia 1988 - recent progress in Biology and Clinical Research. Genoa.
- 1989 Scientific symposium - American society for Haematology, Atlanta, USA
- 1990 Satellite symposium on Non-Hodgkin's lymphoma, British Society of Haematology. Cambridge.  
Cancer and the Immune System, Venice  
From Clone to Clinic, Amsterdam
- 1991 Immunotherapy with monoclonal antibodies, British Council, Cambridge.
- 1992 Cell culture for clinic and pharmaceutical industry, Utrecht
- 1993 Labelling, Quality Control and Clinical Efficacy of Monoclonal Antibodies for Scintigraphy, IAEA Symposium Cambridge.  
New approaches for treating haematological malignancy, LRF International Symposium, London.  
Advances in Clinical Immunology, Royal College of Physicians, Edinburgh.  
Northern Bone Marrow Transplant Group Symposium, Leeds.  
Multiple Sclerosis Grantholders meeting, London.
- 1994 Antibody-based Therapeutics, IBC, Washington, USA.
- 1995 Biochemical Society Symposium, Manchester.
- 1996 Royal Society of Medicine/Transplantation Society joint symposium, London.
- 1997 European Biotechnology Symposium, Edinburgh.  
Biosym 97, Boston (Keynote Speaker).  
American Society for Haematology, LeukoSite/Ilex CLL meeting, San Diego.
- 1998 International Marrow Transplant Registry Annual Meeting, Keystone.

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