



Curriculum Vitae Professor Dr Patrick A. Baeuerle



Name: Patrick Alexander Baeuerle

Date of birth: 24 November 1957

Research Priorities: Development of cancer drugs, tumour immunology, cell biology, protein engineering, therapeutic antibodies

Patrick Baeuerle is a biologist and carries out research in the field of applied immunology. His focus is the development of immune-based cancer drugs. He has worked on the development of novel cancer therapies based on antibodies, fusion proteins, cytokines and gene-modified immune cells for over 20 years. This work has led to the worldwide approval of the leukaemia drug Blincyto and the foundation of so far seven biotech companies in the USA and one in Germany, currently with more than ten clinical programmes testing novel therapies for cancer patients.

Academic and Professional Career

- since 2015 Founder of biotech companies Harpoon, TCR², iOmx, Maverick, Cullinan, Werewolf and Aktis
- since 2015 Executive Partner, MPM Capital LLC, Cambridge, USA
- since 2016 Chief Scientific Officer (CSO, Biologics), Cullinan Oncology Inc., Cambridge, USA
- 2012 - 2015 Vice President of Research, Biotech Company AMGEN Inc., Munich, Germany and Thousand Oaks, USA
- since 2000 Professor h.c. Immunology, Faculty of Medicine, Ludwig Maximilian University of Munich (LMU), Munich, Germany
- 1998 - 2012 Scientific Board of Directors, Micromet GmbH AG and Inc., Munich, Germany and Rockville, USA
- 1996 - 1998 Director of Drug Discovery, Tularik Inc., South San Francisco, USA

- 1992 - 1996 Ordinary Professor of Biochemistry and Molecular Biology, Faculty of Medicine, Albert Ludwig University of Freiburg, Freiburg im Breisgau, Germany
- 1991 Habilitation in Biochemistry, LMU Munich, Munich, Germany
- 1989 - 1993 Principal Investigator, Research Group, Gene Center Martinsried, LMU Munich, Munich, Germany
- 1987 - 1989 Postdoctoral Fellow, Whitehead Institute, Cambridge, USA
- 1982 - 1987 Graduate and Doctoral thesis, Max Planck Institute (MPI), Martinsried and European Molecular Biology Laboratory (EMBL), Heidelberg, Germany
- 1978 - 1982 Degree in Biology, University of Konstanz, Konstanz, Germany

Functions in Scientific Societies and Committees

- since 2021 Scientific Advisory Board, BIOSS Centre for Biological Signalling Studies, Albert Ludwig University of Freiburg, Freiburg im Breisgau, Germany
- 2014 - 2015 Member, Scientific Panel of Health, European Commission
- 2009 - 2012 Member, Scientific Review Board, Qatar National Research Fund, Doha, Qatar
- 2006 - 2007 Member, Health Science Roadmap Committee for Cancer, Federal Ministry of Education and Research (BMBF), Germany
- 1999 - 2004 Member, Scientific Advisory Board, Istituto Scientifica San Raffaele University Hospital, Milan, Italy
- 1993 - 1995 Member, Scientific Advisory Board, Paul Ehrlich Center, Hadassah Medical School, University of Jerusalem, Jerusalem, Israel

Project Coordination, Membership in Collaborative Research Projects

- 1989 - 1996 Member, Collaborative Research Centre, (SFB) 217, 190, 364, 388 and 505, German Research Foundation (DFG), Germany
- 1989 - 1996 Board of Directors, SFB 364, 388 and 505, DFG, Germany

Honours and Awarded Memberships

- since 2021 Member, German National Academy of Sciences Leopoldina, Germany
- 2022 Hirsch index ranking of 137 with over 82,000 citations
- 2019 Lennart Philipson Award for Contributions to Immunotherapy for Cancer, EMBL, Heidelberg, Germany

2019	Entrepreneur of the Year, Boston, USA
2019	Among the 0.01% most cited scientists worldwide, according to study by Ioannides et al. (Stanford University), USA
2002	Member, European Molecular Biology Organization (EMBO), Heidelberg, Germany
1991 - 2000	Germany's most cited biomedical scientist, according to a study of the Institute for Scientific Information (ISI), Philadelphia, USA
1993	First prize winner, Prix Européen de l'Avenir
1991 - 1993	Karl Winnacker Award and Scholarship, Hoechst AG, Frankfurt am Main, Germany
1987 - 1989	Fellowship Abroad, DFG, Germany
1983 - 1987	Scholarship, Max Planck Society, Munich, Germany and EMBL, Heidelberg, Germany

Research priorities

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Blincyto is known as a bispecific antibody, which briefly links the T immune cells of cancer patients with cancer cells and thus initiates their elimination. A common feature of all cancer therapies developed by Patrick Baeuerle is that they activate the immune cells of patients against cancer cells, using novel proteins tailor-made for this purpose with recombinant methods.

Baeuerle's initial research focused on relaying pathogenic signals from the cell membrane into the cell nucleus. The inducible transcription factor NF-kappaB plays a key role here. The latter is activated by various pathogenic stimuli in many diseases and initiates the expression of defence genes and immune signalling proteins. His research has led to the discovery of new subunits of NF-kappaB (I-kappaB and p65/RelA) and has explained the canonical activation mechanism of NF-kappaB, which is based on the degradation of the inhibitory subunit I-kappaB by the ubiquitin system.

Since 1998 Patrick Baeuerle has developed novel cancer drugs, primarily in biotech companies in the USA. As Head of Research at Micromet, he was responsible for developing the bispecific antibody blinatumomab, which was approved in the USA in 2014 and in Europe in 2015 as the leukaemia treatment "Blincyto". Blinatumomab is not only the first, but until recently was also the only approved antibody of its kind able to eliminate the patient's cancer cells by using their T immune cells. Numerous other cancer drugs that Baeuerle has helped to develop are currently

undergoing clinical trials. For example, T cells that have been genetically modified with a synthetic TRuC receptor are currently being tested in mesothelioma patients. For patients with other cancers the next generation of bispecific antibodies is being developed which are only activated after penetrating into the tumour. Preclinical research includes work on novel cytokine fusion proteins that link interleukins-2 and -12. Many cancer therapies have been co-developed by Patrick Baeuerle and promise to have both improved tolerability and increased efficacy.