

Antonio Lanzavecchia – Biosketch

Antonio Lanzavecchia is known for his work on antigen presentation by B cells and dendritic cells, for his studies on T cell activation and on the cellular basis of immunological memory, and for the development of novel methods to isolate human monoclonal antibodies. Lanzavecchia was born in Italy and obtained a medical degree from the University of Pavia, where he specialized in pediatrics and in infectious diseases. From 1983 to 1999 he worked at the Basel Institute for Immunology and since 2000 as founding director of the Institute for Research in Biomedicine in Bellinzona, Switzerland.

He has been Professor of Immunology at the University of Genova and at the Swiss Federal Institute of Technology, ETH Zürich. Lanzavecchia received the EMBO Gold Medal, the Cloetta Prize, the Robert Koch Prize, the Sanofi-Institut Pasteur prize and the Louis-Jeantet Prize and is a member of the EMBO and a foreign associate of the US National Academy of Sciences. Lanzavecchia is the scientific Founder of Humabs Biomed, now a subsidiary of Vir Biotechnology, where he is currently Senior Research Fellow. His academic research continues at the National Institute of Molecular Genetics in Milan.

Antonio Lanzavecchia – Current research interest

Lanzavecchia's laboratory investigates the mechanisms of antibody-mediated resistance to infectious diseases. Using high-throughput cellular screens, they interrogate human memory B cells and plasma cells and isolate potent and broadly neutralizing antibodies against a variety of targets, ranging from common pathogens to emerging viruses. These antibodies are developed for prophylaxis and treatment of infectious diseases and are used as tools to produce optimal vaccine components in a process of antibody-guided vaccine design. Besides these translational studies, the laboratory addresses fundamental aspects of the antibody response, such as the mechanisms that lead to the production broadly neutralizing antibodies, and the relationship between infection and autoimmunity. The laboratory is also studying a new mechanism of antibody diversification through templated DNA insertions that they recently discovered in the context of the antibody response to malaria parasites.