

Fundamental Research

Scientific Committee: Medical Sciences

Research Work Title

Human Genetics of Infectious Diseases



Researcher

Jean-Laurent CASANOVA

Country

France

Field

Infectious Diseases

Scientific Affiliation

**Rockefeller University and University of Paris;
Laboratory of Human Genetics of Infectious
Diseases.**

Abstract

While most humans do well when they get infected with infectious agents, infections might cause life-threatening diseases. This is called “infection enigma”. Prof. Jean-Laurent Casanova discovered the human genetic and immunological determinants of various viral, bacterial, fungal, and parasitic infectious diseases. His laboratory reported that single-gene inborn errors of immunity or their autoimmune phenocopies can cause specific types of severe infections in healthy individuals being normally resistant to other infectious agents. Prof. Casanova found that inborn errors or autoantibodies against type I interferons can account for about 20% of the cases of critical COVID-19 pneumonia. These findings have far-reaching clinical and biological implications.

Biography

Prof. Jean-Laurent CASANOVA received his MD and Ph.D. in Paris where he participated in a pediatrics residency program followed by a fellowship in pediatric immunology at the Necker Hospital for Sick Children. He was appointed professor of the faculty of the Necker and the University of Paris in 1999 and founded a laboratory dedicated to research on human genetics of infectious diseases. In 2008, Prof. CASANOVA started the second branch of the laboratory at the Rockefeller University in New York. He received multiple international awards, including the Koch Prize (Germany), the Pasteur Prize (France), the Lounsberry Award (USA and France), the Korsmeyer Award (USA), the Baillet-Latour Award (Belgium), and the Isle-Wachter Award (Austria). Prof. CASANOVA also received honorary doctorates from the Universities of Zürich (Switzerland), Debrecen (Hungary), Aarhus (Denmark), and Leuven (Belgium) and is a foreign member of the National Academies of Science and Medicine in the USA and the Royal Academy of Medicine of Belgium.