



Professor Manuel Serrano

AFFILIATION:

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LINK TO WEBPAGE: <https://www.irbbarcelona.org/en/research/manuel-serrano>

TITLE OF PRESENTATION: ***Cellular senescence and reprogramming provide new insights into the process of ageing***

Abstract of presentation

Aging is, by far, the single most important risk factor for the large majority of diseases. Paradoxically, the molecular and cellular basis of ageing have remained poorly studied in comparison to other areas of research related to health and disease. In recent years, the understanding of cellular senescence and cellular reprogramming are providing unprecedented insights into the process of ageing, including emerging pharmacological interventions and objective measures of biological ageing, even at the single cell level. I will present an overview of these areas of research together with some of our recent contributions.

Biographical note

Manuel Serrano obtained his PhD in 1991, at the University of Madrid (UAM). From 1991 to 1996, Serrano worked as a postdoctoral researcher in the team of David Beach in Cold Spring Harbor Laboratory, NY. Since 1997, Manuel works in Spain, first in Madrid, at the National Center of Biotechnology (CNB) (until 2003) and at the Spanish National Cancer Research Center (CNIO). In 2017, Serrano moved to the Institute for Research in Biomedicine (IRB), in Barcelona.

Manuel Serrano is recognized in the fields of tumor suppression, senescence, aging and reprogramming. In 1993, he reported the discovery of the gene p16. This gene is among the most important anti-cancer genes but also a key inducer and marker of cellular senescence. Serrano pioneered the generation of genetically-modified mice resistant to cancer. Also, the Serrano laboratory demonstrated that cellular reprogramming into pluripotency is possible within tissues *in vivo* (Advance of the Year 2013, by Nature Medicine). The focus of his laboratory is to apply their knowledge on senescence and reprogramming to treat degenerative diseases and aging.