

Fabrizio d'Adda di Fagagna, Ph.D. is a cell and molecular biologist that studies the involvement of the DNA damage response (DDR) pathways in physiologically-relevant processes such as aging and cancer.

He obtained his Ph.D. in Molecular Genetics at the International School for Advanced Studies (SISSA) working at the International Centre for Genetic Engineering (ICGEB) in Trieste, Italy, on the transcriptional regulation of HIV-1. He then moved to Cambridge, UK, to work in the group of Prof. Steve Jackson at the now Gurdon Institute. Here, he discovered and reported for the first time the engagement of DDR factors in the maintenance of telomeres, the inactivation by proteolysis of DDR factors during apoptosis, the identity of a set of prokaryotic orthologues of mammalian DNA repair factors and, most importantly, he demonstrated that replicative cellular senescence is the outcome of DDR activation caused by the direct recognition of critically short telomeres.

Dr. Fabrizio d'Adda di Fagagna set up his own research group at IFOM (FIRC Institute of Molecular Oncology) in Milan, Italy, in 2003. Here, he demonstrated that oncogene activation is an intrinsically genotoxic event that, by altering DNA replication, causes DDR activation and cellular senescence establishment. Since then, he has been working on several aspects of cellular senescence. More recently, he proposed a unifying model for cellular senescence establishment based on persistent DNA damage at telomeres in cultured cells and in vivo in primates.

Dr. Fabrizio d'Adda di Fagagna's most exciting recent finding is the discovery of an unanticipated role of non coding RNAs in the direct activation of the DDR. This discovery fuels most of his present investigative efforts.

In 2014, he was awarded a permanent position "for exceptional merits" at the Italian National Research Council (CNR) in Pavia where he runs a laboratory.

Dr. Fabrizio d'Adda di Fagagna is an EMBO member and received several awards for his work, including the European Association for Cancer Research (EACR) Young Cancer Researcher Award and the EMBO Young Investigator Award. He is a recipient of a ERC advanced grant.