David Baltimore

Date of Birth 7 March 1938

Place New York, NY (USA)

Nomination 17 April 1978

Field Biology

Title Professor, Nobel laureate in Physiology or Medicine, 1975

Professional address

California Institute of Technology

Pasadena, CA 91125 (USA)

Most important awards, prizes and academies

Awards: First recipient of the Gustave Stern Award in Virology (1970); Warren Triennial Prize from the Massachusetts General Hospital (1971); Eli Lilly and Co. Award in Microbiology and Immunology (1971); National Academy of Sciences' United States Steel Award in Molecular Biology (1974); Gairdner Foundation Annual Award (1974); Nobel Prize in Physiology or Medicine (1975); National Medal of Science (1999); Warren Alpert Foundation Prize (2000). *Academies*: US National Academy of Sciences (1974); American Academy of Arts and Sciences (1974); Pontifical Academy of Sciences (1978); Chairman of the Board of Directors, American Association for the Advancement of Science (1980); Honorary Fellowship, American Medical Writers Association (1985); Foreign Member, The Royal Society, UK (1987); Honorary Membership, Alpha Omega Alpha Honor Medical Society (1987); Institute of Medicine (1988); Honorary Member, Japanese Biochemical Society (1991); Fellow, American Academy of Microbiology (1992).

Summary of scientific research

Research in Dr. Baltimore's laboratory revolves around understanding aspects of the development and function of the immune system. His laboratory examines these issues at many levels – molecular, cellular and organismal – with the ultimate aim of integrating the various types of information. Present foci of activity include: 1) investigation of the NF-kB family of transcription factors and their controlling proteins with emphasis on the effects of ablating the mouse genes for these proteins; 2) extension of the studies on NF-kB to determine its role in neuronal function; 3) study of the role of the development and c-*abl*gene in cellular metabolism; 4) investigation of how memory T cells are set aside during an immune response.

Main publications

Zarnegar B., He J.Q., Oganesyan G., Hoffmann A., Baltimore D., Cheng G. (2004) Unique CD40-mediated biological program in B cell activation requires both type 1 and type 2 NF-kappaB activation pathways, *Proc. Natl. Acad. Sci. USA* 101, 8108-13; Schatz D.G., Baltimore D. (2004) Uncovering the V(D)J recombinase, *Cell* 116, S103-6, 2 p following S106; Lu W., Yamamoto V., Ortega B., Baltimore D. (2004) Mammalian ryk is a wnt coreceptor required for stimulation of neurite outgrowth, *Cell* 119, 97-108; Leung T.H., Hoffmann A., Baltimore D. (2004) One nucleotide in a kappaB site can determine cofactor specificity for NF-kappaB dimers, *Cell* 118, 453-64; Baltimore D. (2004) Science and the Bush Administration. *Science* 305, 1873; Qin XF, An DS, Chen IS, Baltimore D (2003) Inhibiting HIV-1 infection in human T cells by lentiviral-mediated delivery of small interfering RNA against CCR5, *Proc. Natl. Acad. Sci. USA* 100, 183-8; Porteus M.H., Baltimore D. (2003) Chimeric nucleases stimulate gene targeting in human cells, *Science* 300, 763; Porteus M.H., Cathomen T., Weitzman M.D., Baltimore D. (2003) Efficient gene targeting mediated by adeno-associated virus and DNA double-strand breaks, *Mol. Cell. Biol.* 23, 3558-65; Meffert M.K., Chang J.M., Wiltgen B.J., Fanselow M.S., Baltimore D. (2003) NF-kappa B functions in synaptic signaling and behavior, *Nat. Neurosci.* 6, 1072-8; Klausner R.D., Fauci A.S., *et al.* (2003) Medicine. The need for a global HIV vaccine enterprise,*Science* 300, 2036-9; Hoffmann A., Leung T.H., Baltimore D. (2003) Genetic analysis of NF-kappaB/Rel transcription factors defines functional specificities, *Embo J.* 22, 5530-9; Brown E.J., Baltimore D. (2003) Essential and dispensable roles of ATR in cell cycle arrest and genome maintenance, *Genes Dev.* 17, 615-28; Antov A., Yang L., Vig M., Baltimore D.,

Van Parijs L. (2003) Essential role for STAT5 signaling in CD25+CD4+ regulatory T cell homeostasis and the maintenance of self-tolerance, *J. Immunol.* 171, 3435-41.