

BRIEF CURRICULUM VITAE

NAME: Alberto MANTOVANI; Male; born October 29, 1948, Milan, Italy; Italian; married, four children.

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EDUCATION: 1973: M.D., University of Milan, Italy, summa cum laude; **1976:** Specialist in Oncology, University of Pavia, Italy

ACADEMIC APPOINTMENTS

1975-1976: Visiting fellow, Chester Beatty Research Institute, England.
1978 and 1979: Visiting fellow, NIH, Bethesda, MD, USA.
1981-2005 Chief, Lab of Immunology, and after 1996 Head of the Dept. Immunology and Cell Biology, Istituto di Ricerche Farmacologiche "Mario Negri", Milan, Italy.
1986-1987: Eleanor Roosevelt UICC Scholar, NIH, Frederick, MD., USA.
1994 to 2001: Full Professor of General Pathology, School of Medicine, University of Brescia, Italy.
2001 to 2014: Full Professor of General Pathology, School of Medicine, State University of Milan, Italy;
Sept. 2005 to date: Scientific Director, Istituto Clinico Humanitas and President, Fondazione Humanitas per la Ricerca;
2014 to date: Full Professor of General Pathology, School of Medicine, Humanitas University, Rozzano, Milan, Italy.
2017 to date: Professor, Chair of Inflammation and Therapeutic Innovation, William Harvey Research Institute, Queen Mary University, London, UK

SELECTED MAJOR HONORS

National

1998: Biotec Award, Italy.
2004: Guido Venosta Award for Cancer Research conferred by the President of the Republic of Italy.
2006: "Onorificenza al Merito della Repubblica Italiana" (Commendatore, knightwood equivalent) for scientific contribution by the President of the Republic of Italy.
2007: Galileo Galilei Prize for Research in Biomedical Sciences (International Jury).
2014: Premio Rosa Camuna 2014, Regione Lombardia.
2015: Ferrari-Soave International Prize, Accademia delle Scienze, Torino.
2016: International Feltrinelli Prize from the Accademia dei Lincei.
2017: Premio Scanno, Fondazione Tanturri, Scanno, Italy.
2018: Medaglia d'Oro di Benemerenzza Civica, Milan Municipality (Ambrogino d'Oro)

International

2000: Marie T. Bonazinga Award, Society for Leukocyte Biology, Boston, USA.
2006: European Federation of Immunological Societies – Schering Plough, 1st European Immunology Prize, Paris, France.
2009: William Harvey Award, Outstanding Scientist 2009, London, UK.
2015: Eur. Soc. Clin. Invest. Albert Struyvenberg Medal.
2015: The Milstein Award for Excellence in Interferon and Cytokine Research, International Cytokine & Interferon Society.
2016: OEI Prize for contribution to Cancer Immunology and Immunotherapy, Bruxelles, Belgium. The Organization of European Cancer Institutes (OEI) awards the Prize every three years.
2016: Robert Koch Award, Robert Koch Stiftung, Germany.
2018: American-Italian Cancer Foundation (AICF) Prize for Excellence in Medicine
2019: Pezcoller Foundation-AACR International Award for Extraordinary Achievement in Cancer Research

SELECTED MEMBERSHIPS, BOARDS AND ACADEMIES

1995-1998: President, Italian Federation of Immunological Societies

1998-2001: President, Italian Society of Immunology

2000 to date: European Molecular Biology Organization (EMBO) Member

2002: Member, The Henry Kunkel Society

2003: Co-founder and President (2011-2012) of Gruppo 2003, the association of Italian highly cited scientists to promote Science awareness in Italy

2005-2010: Board Member of the Global Alliance for Vaccines and Immunization (GAVI Alliance)

2008: Member, Faculty of 1000 Biology

2009-2010: President, International Cytokine Society

2011-2013: Board Member, International Union of Immunological Societies (IUIS)

2013: Vice-President/President Elect, International Union of Immunological Societies (IUIS)

2016-2019: President, International Union of Immunological Societies (IUIS)

2016: Member, Accademia dei Lincei, Rome, Italy.

2016: Member, Robert Koch Stiftung, Berlin

2017: Member, Academia Europaea

2017: Honorary Member, Scandinavian Society of Immunology

EDITORIAL ACTIVITY (current)

Editor-in-Chief, Seminars in Immunology (I.F. 9.6)

Senior Editor, Cancer Immunology Research (I.F. 8.2)

SELECTED TRAINEES (H index as of October 2017)

Biondi Andrea, Italy (81); Biswas Subhra Kumar, Singapore (30); Bordignon Claudio, Italy (58); Colotta Francesco, Italy (49); Delgado René, Cuba (31); Gadina Massimo, USA (39); Ghezzi Pietro, UK (68); Giavazzi Raffaella, Italy (51); Jonjic Nives, Croatia (19); Locati Massimo, Italy (57); Rambaldi Alessandro, Italy (77); Sica Antonio, Italy (62); Sozzani Silvano, Italy (84); Wang Ji-Ming, USA (33).

MAIN CONTRIBUTIONS

Tumor-associated macrophages (TAM). Demonstration in the late '70s of the protumor function of tumor-associated macrophages (TAM, an acronym now generally used and coined by him in the '70s) linking inflammation and cancer (Bottazzi et al, Science 1983; Balkwill and Mantovani, Lancet, 2001). TAM as a prototypic M2-like population (Mantovani et al., Nature 2008; Balkwill et al., Cancer Cell 2005). Promotion of tumor progression by IL-1 (Cancer Res. 1990; 1993). First molecular linking of a genetic event (RET/PTC rearrangement) causing cancer in humans to the construction of an inflammatory microenvironment (Borrello et al., PNAS 2005). Proof of principle that targeting tumor promoting macrophages has therapeutic value in humans (Germano et al, Cancer Cell 2013). Demonstration that PTX3 is an extrinsic oncosuppressor regulating complement and macrophage driven tumor promoting inflammation (Bonavita et al Cell 2015). Alberto Mantovani is recognized among his peers as a forerunner in the '70s and a "founding father" of the renaissance of the inflammation-cancer connection. For IL-1R8, see below, IL-1.

Chemokines. Description and role in TAM recruitment of a unique monocyte attractant, Monocyte Chemotactic Protein-1 (CCL2), as tumor-derived chemotactic factor (Bottazzi et al, Science 1983). Characterization of chemokines and role in pathophysiology, including dendritic cell and polarized T cell migration. Induction of chemokine production by IL-6 in endothelial cells via trans-signaling, a key component of chronic inflammation and cancer (Romano et al, Immunity 1997). Characterization of D6 as a decoy receptor for inflammatory CC chemokines (Mantovani et al, Nature Rev. Immunol 2006). Role of chemoattractants in carcinogenesis (for a recent contribution Bonavita et al Cell 2015).

IL-1/Toll-like receptors (TLR). Endothelial cell activation by IL-1 and cytokines (Rossi et al., Science 1985; Bussolino et al, Nature 1989; Romano et al, Immunity 1997). Identification of the type II receptor as a decoy receptor, a novel concept in biology (Colotta et al, Science 1993); the discovery of a decoy receptor represented a paradigm shift after the original definition of the concept of "receptor" by Langley at the beginning of the 20th century; decoy receptors are now recognized as a general, evolutionary conserved strategy to tune cytokines, chemokines and growth factors. Cloning of an intracellular isoform of the IL-1 receptor antagonist (Muzio et al., J. Exp. Med. 1995). First demonstration of MyD88 as the

adaptor of mammalian Toll-Like Receptors (TLR) and identification of downstream transducers (Muzio et al., J. Exp. Med. 1998). Cloning and characterization of TIR8/SIGIRR (IL-1R8) a negative regulator of IL-1 receptor and TLR signalling (Garlanda et al, Immunity 2013). Role in carcinogenesis. IL-1R8 genetic mutations have recently been shown to underlie increased susceptibility to selected autoinflammatory disorders. Moreover, in NK cells IL-1R8 serves as a checkpoint: its blocking unleashes resistance to carcinogenesis and metastasis at selected anatomical sites (Molgora et al, 2017).

Humoral innate immunity: cloning (cDNA and genomic, mouse and human), structural and functional characterization of the first long pentraxin PTX3 gene (Garlanda et al, Nature 2002; Jeannin et al, Immunity 2005; Jaillon et al. J. Exp Med 2007 ; Deban et al, Nature Immunol. 2010; Jaillon et al. Immunity 2014; Bonavita et al. Cell 2015); structural immunobiology; role as a paradigm for humoral innate immunity; role as an extrinsic oncosuppressor in murine and human tumors regulating complement and macrophage-driven tumor promoting inflammation (Bonavita et al. Cell 2015); diagnostic and therapeutic translation (Cunha et al New England J. Med. 2014; ongoing). Thus, a regulator of macrophage-driven tumor promoting inflammation is a bona fide cancer gene, silenced in selected human tumors such as colorectal cancer, a finding now independently confirmed in large patients cohorts.

Contribution to Public Awareness of Science

He has contributed to authoritative Italian daily newspapers (eg Corriere della Sera; Il Sole 24 Ore), magazines (Espresso and Panorama), TV and Radio programs. He wrote three books (I Guardiani della Vita, Baldini e Castoldi, 2011; Immunità e Vaccini, Mondadori, 2016; Non aver paura di sognare, La Nave di Teseo, 2016) on Immunology, Vaccines and Health targeted to lay public. He cofounded the association "Gruppo2003" of Italian highly cited scientists (<http://www.gruppo2003.it>) and together with astrophysicist Tommaso Maccacaro founded the website <http://www.scienzainrete.it> to foster science in Italy.

Impact

He is the most quoted Italian scientist (http://www.topitalianscientists.org/Top_italian_scientists_VIA-Academy.aspx) and one of the most quoted immunologists worldwide (http://www.tisreports.com/products/19-Top_scientists_in_the_world_the_Via_academy_compilation.aspx). As of March 2018 he has over 103,000 (Scopus), 76,000 (Web of Science) or 144,728 (Google Scholar) citations and an H-index of 154 (Scopus), 126 (Web of Science) or 180 (Google Scholar).