

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Roberto Mantovani

POSITION TITLE: Professor of Genetics

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Collegio San Carlo, Milano	Maturità	07/1979	Liceo Classico
Università degli Studi di Milano	Medical Degree	10/1985	Molecular Genetics
Università degli Studi di Milano	Specialità	6/1989	Biochemistry
Laboratoire de Genetique Moleculaire des Eukaryotes. U de Strasbourg (F)	Post-Doc	12/1992	Molecular Genetics
Università degli Studi di Milano	Assistant Professor	10/1998	Molecular Genetics
Università degli Studi di Modena e Reggio	Associate Professor	01/2003	Molecular Genetics
Università degli Studi di Milano	Associate Professor	01/2005	Molecular Genetics
Università degli Studi di Milano	Full Professor	Present	Molecular Genetics

A. Personal Statement

My laboratory started in 1993 and focused on regulation of gene expression, notably on the NF-Y transcription factor, throughout my scientific career, and on the p63 TF (2003/2012). We currently have three goals: (i) to establish the molecular (structural) mechanism(s) of how NF-Y synergizes with TFs (and itself) in promoters. (ii) To understand the mechanism of alternative splicing of NF-YA, which impacts on tumor growth and metastasis, and identify the implicated Splicing Factors. (iii) To study the evolutionary history of the three NF-Y subunits.

B. Positions, Scientific Appointments, and Honors

Currently, I am Professor of Genetics at the Department of Biomolecular Sciences of the University of Milan.

Coordinator of the PhD program in Genetics and Molecular Biology for two terms (2006-2012).

Co-founded Genespin srl in 2004, sold in 2014. The Company is currently active.

On the board of Directors of the SIBBM, Italian Society of Molecular Biology (2002-2004) and AGI, Italian Genetics Association (2005-2007).

Co-organized the annual SIBBM meetings in Milano (2005 and 2010).

Elected in the Board of the Department of Biosciences for two terms (2014-2019).

Elected in the Senate of the University of Milano for two terms (2014-2018).

Coordinator of the PhD program in Molecular and Cellular Biology (2021-2024)

Elected in the Board of the Department of Biosciences for a third term (2022-2025).

Promoted the U. of Milano-Politecnico joint Degree in "Bioinformatics for Computational Genomics" (2019-present)

Academic Editor of Cell Death and Disease (NPG), PLoS ONE.

Referee for: Nature Genetics, Nat. Struct. Mol. Biol., Nat. Methods, Nature Comm., Nature Plant, Nature Metabolism, Cell Reports, Plant Cell, Nucleic Acids Research, Cell Death and Differentiation, Stem Cells, J. Cell Biol., Plant J., Molecular and Cellular Biology, Oncogene, The EMBO J., EMBO Reports, J. Biol. Chemistry etc.

Nominated Member of the Istituto Lombardo of Science and Letters (Est. 1797) in 2019.

C. Contributions to Science

Supervised the following PhD students currently in science: Patricia Lievens (Associate Professor, U of Verona, I); Chiara Liberati (CEO, Golgi Biotech, I); Giuseppina Caretti (Associate Professor, U. Milano, I); Mattia Frontini (Associate Professor, U. of Exeter, UK); Carol Imbriano (Associate Professor U. of Modena, I); Barbara Testoni (Group Leader, CNRS Lyon, F); Claudia Forni (Telethon, I); N. Cordani (Assistant Professor, U. of Milano-Bicocca, I); Giacomo Donati (Full Professor, U. of Torino, I); Michele Ceribelli (Staff scientist, NIH, Washington, USA); Daniele Merico (Vice-President Tahoe/Vevo Therapeutics, USA); Diletta Dolfini (Associate Professor, U. of Milano, I); Elena Martinova (EY Scientific Consulting NYC, USA); Mariangela Lorenzo (Post-doc, INGM Milano, I); Andrea Bernardini (Assistant Professor, U. of Milano); Dana Saad (Clinical Monitor, Milano); Mirko Ronzio (Technologist, U. of Milano); Alberto Gallo (Post-doc, U. of Milano).

Published >180 papers: >16300 citations, H index 73 (Google Scholar); >11900 citations, H index 61 (Scopus).

Ranks in pos. 27447 in the Ioannides classification of the top 2% (100k) academic Scholars (all fields, 1960-2019).

Ranks in pos. 966 worldwide in the Research.com classification of best Molecular Biologist of 2025/26 (pos. 18 in Italy).

My contributions include:

- The generation of antibodies and Dominant Negative vectors for NF-Y (#2 and #3), thereafter freely provided to >200 labs worldwide. The contribution was acknowledged in >190 resulting publications.
- The formalization of the precise CCAAT logo, thereafter inserted in the TRANSFAC and JAPAR Transcription Factors databases (#5), commonly used in thousands of genomic studies.
- The systematic classification of NF-Y subunits in *Arabidopsis thaliana*, thereafter followed in essentially all manuscripts focused on plant NF-Y (#7 and #11).
- Studies on the novel mechanisms of action of the marine compound Et743 (#6), now an established drug against soft tissue sarcomas (Trabectedin). Identification of pro-differentiation properties.
- The first identification of genomic targets of p63 (#9) and NF-Y (#10) in the pre-NGS era, among the first such TFs studies published from European labs.
- The determination of the structure of NF-Y subunits in mammals and plants (#8, #12, #15, #17).
- Collaboration with K. Struhl (Harvard U. USA) to insert NF-Y in the ENCODE consortium, leading to the -still ongoing- comprehension of its regulome by genomic and functional studies (#13, #14).
- The discovery that the plant CCT family is related to NF-YA to impart sequence-specificity to the histone-like NF-YB/C subunits (#16), solving a long-lasting question in the field.
- The model whereby sequence-specific TFs impacts on positioning of RNA Pol II initiation site(s) by using their flexible QVIT-rich domains (#20).

A list of 20 selected publications.

1. Mantovani, R., Superti-Furga, G., Gilman, J., Ottolenghi, S. The deletion of the distal CCAAT box region of the γ globin promoter in Black HPFH abolishes the binding of the erythroid specific protein NFE-3 and of the CCAAT displacement protein. Nucleic Acids Res. 17, 6681-6691 (1989).

2. Mantovani, R., Pessara, U., Tronche, F., Li, X-Y., Knapp, A.M., Pasquali, J.L., Benoist, C., Mathis, D. Monoclonal antibodies to NF-Y define its function in MHC Class II and albumin gene transcription. EMBO J. 11, 3315-3322 (1992).
3. Mantovani, R., Li, X-Y., Pessara, U., van Huijsdijnen, R., Benoist, C., Mathis, D. Dominant negative analogs of NF-YA. J. Biol. Chem. 269, 20340-20346 (1994).
4. Bellorini, M., Dantonel, J.C., Yoon, J-B., Roeder, R.G, Tora, L., Mantovani, R. The MHC Class II Ea promoter requires TFIID binding to an Initiator sequence. Mol. Cell. Biol. 16, 2, 503-512 (1996).
5. Mantovani, R. A survey of 178 NF-Y binding CCAAT boxes. Nucleic Acids Res. 26, 1135-1143 (1998).
6. Minuzzo M., Marchini F., Broggini M., Faircloth G., D'Incalci M. and Mantovani R. Interference of transcriptional activation by the anti-neoplastic drug Et743. Proc. Natl. Acad. Sci. USA. 97, 6780-6784 (2000).
7. Gusmaroli G., Tonelli C., Mantovani R. Regulation of CCAAT-binding NF-Y subunits in *A. thaliana*. Gene 264, 173-185 (2001).
8. Romier C., Cocchiarella F., Mantovani R., and Moras D. The crystal structure of the NF-YB/NF-YC heterodimer gives insight into transcription regulation and DNA binding and bending by transcription factor NF-Y. J. Biol. Chem. 278, 1336-1345 (2003).
9. Viganò MA., Lamartine J., Testoni B., Merico D., Alotto D., Castagnoli C., Robert A., Candi E., Melino G., Gidrol X., and Mantovani R. New p63 targets in keratinocytes identified by a genome-wide approach. EMBO J. 25, 5105-16. (2006)
10. Ceribelli M., Dolfini D., Merico D., Gatta R., Viganò M.A., Pavesi, G. and Mantovani R. The histone like NF-Y is a bifunctional transcription factor. Mol. Cell. Biol. 28, 2047-2058 (2008).
11. Petroni K., Kumimoto RW., Gnesutta N., Calvenzani V., Fornari M., Tonelli C., Holt BF. III and Mantovani R. The promiscuous life of the plant NUCLEAR FACTOR Y (NF-Y) transcription factors. Plant Cell 24, 4777-4792 (2012).
12. Nardini M., Gnesutta N., Donati G., Gatta R, Forni C., Fossati A., Vonnrhein C., Moras D., Romier C., Bolognesi M., Mantovani R. NF-Y is a sequence-specific transcription factor displaying histone-like DNA binding and H2B-like ubiquitination. Cell 152, 132-143 (2013).
13. Fleming JD., Pavesi G., Benatti P., Imbriano C., Mantovani R., Struhl K. NF-Y co-associates with FOS at promoters, enhancers, repetitive sequences and inactive chromatin regions, and is stereopositioned with growth-controlling transcription factors. Genome Res. 23, 1195-1209 (2013).
14. Dolfini D., Zambelli F., Pedrazzoli M., Mantovani R., Pavesi G. A high-definition look at the NF-Y regulome reveals genome-wide associations with selected transcription factors. Nucleic Acids Res. 44, 4684-702 (2016).
15. Gnesutta N., Saad D., Chaves Sanjuan A., Mantovani R., Nardini M. Crystal structure of the *Arabidopsis thaliana* L1L/AtNF-YC3 histone-fold dimer reveals specificities of the LEC1 family of NF-Y subunits in plants. Mol Plant 10, 645-48 (2017).
16. Gnesutta N., Kumimoto RW, Swain S., Chiara M., Siriwardana C., Horner DS, Holt III BF., Mantovani R. CONSTANS imparts DNA sequence-specificity to the histone-fold NF-YB/NF-YC dimer. Plant Cell 29, 1516-32 (2017).
17. Chaves-Sanjuan A., Gnesutta N., Gobbini A., Martignago, D., Bernardini A., Fornara F., Mantovani R.*, Nardini M.* Structural determinants for NF-Y subunit organization and NF-Y/DNA association in plants. Plant J. 105, 49-61 (2021).
18. Rigillo G., Basile V., Belluti S., Ronzio M., Sauta E., Ciarrocchi A., Latella L., Saclier M., Molinari S., Vallarola A., Messina G., Mantovani R., Dolfini D., Imbriano C. The transcription factor NF-Y participates to stem cell fate decision and regeneration in adult skeletal muscle. Nature Communications 12, 6013 (2021).
19. Dolfini D., Imbriano C., Mantovani R. The role(s) of NF-Y in development and differentiation. Cell Death and Differentiation 32, 195–206 (2025).
20. Bernardini A., Mantovani R. Q-rich activation domains: flexible “rulers” for transcriptional start site selection? Trends in Genetics S0168-9525(24)00272 (2025)