Carol Imbriano, PhD
Associate Professor in Genetics
Head of Molecular Genetics Lab
Department of Life Sciences
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Education and training

2003-2005 Post-doc, Department of Animal Biology, University of Modena and Reggio Emilia (I), Lab of Prof. R. Mantovani.
1999-2002 PhD School of Biotechnology and Molecular Medicine, Department of Animal Biology, University of Modena and Reggio Emilia (I), Lab of Prof. R. Mantovani.
1993-1998 M.S. (Biological Sciences), University of Milan (I).

Employment and research experience

2017-present Associate Professor in Genetics, Department of Life Sciences, University of Modena and Reggio Emilia (I).
2005-2017 Assistant Professor in Genetics, University of Modena and Reggio Emilia (I).
2003-2005 Fellowship from Fondazione Italiana Ricerca sul Cancro (FIRC), Department of Animal Biology, University of Modena and Reggio Emilia (I), Lab of Prof. R. Mantovani. Research activity: p53 transcriptional repression of NF-Y dependent G2/M promoters.
2000-2003 University of Modena and Reggio Emilia (I), Lab of Prof. R.Mantovani. Research activity: identification of NF-Y partners in gene transcription: HSP-CBF and TAFsII.
1998-1999 Fellowship from Telethon, Department of Genetics, University of Milan (I). Lab of Prof. R. Mantovani. Research activity: cloning and characterization of the histone-fold proteins YBL1 and YCL1.
1997-1998 DIBIT, Istituto Scientifico Ospedale S.Raffaele (HSR), Milano (I). Lab of Prof. F. Blasi. Scientific Tutor: Dr. M.P. Crippa. Research activity: chromatin structure and regulation of the *Urokinase* gene.

C. Imbriano has always been interested in studying the transcriptional control of gene expression. Since 1998, she has been studying the transcription factor NF-Y, a heterotrimeric complex that binds CCAAT boxes and activates gene transcription. The Imbriano lab started in 2005, after she was appointed as Assistant Professor at the University of Modena. Currently, her group is interested in three main research topics: (i) the role of NF-Y and of its splice variants in controlling cell survival, differentiation and apoptosis in cancer cells and muscle stem cells, (ii) NF-Y activity in DNA replication and DNA damage response, (iii) the molecular mechanisms of the anti-proliferative activity of molecules targeting NF-Y activity.

Academic and scientific assignments

2023-present, Director of the Bachelor of Science in Biotechnology, Dep. of Life Sciences, University of Modena and Reggio Emilia
2021-present, Member of the Quality Assurance Board for the Bachelor program in Biotechnology, Dep. of Life Sciences, University of Modena and Reggio Emilia.
2020-2021 Member of the Spin Off/Start up Committee, University of Modena and Reggio Emilia.
2017-present, Academic representative for the orientation program of Bachelor and Master degree courses offered by the Dep. of Life Sciences, University of Modena and Reggio Emilia.
2014-present, Academic representative for Biotechnology orientation program, Dep. of Life Sciences, University of Modena and Reggio Emilia.
2009-present Member of the Board of the PhD School in Molecular and Regenerative Medicine, University of Modena and Reggio Emilia. Teaching assistant in the organization of teaching/seminars program of the School.
2006-2011 Member of the Board of the PhD in Evolutionary Biology and Environment, University of Modena and Reggio Emilia.
2020-present, Member of AGI scientific community (Associazione Genetica Italiana).

2014-present, Member of the ABCD scientific community (Associazione di Biologia Cellulare e del Differenziamento).
2011-present, Member of the Italian Network of PhD Programs in Biomedical and Biotechnological Sciences (NEIDOS).

Dr. Imbriano served as guest editor for special issue of Molecules (ISSN 1420-3049). She a reviewer for international scientific journals (Journal of Cell Science, Cancers, Cancer letters, IJMS, Gene, Cells, BMC Developmental Biology, Cell Proliferation, Biochemical Pharmacology, Bone, ChemMedChem, FEBS Journal, Plos One, Cell Death and Disease, BBA, Cancer Biomarkers).
She participates in the reviewing process of national and international scientific projects.

Awards
2017 Italian National Scientific Qualification as Full Professor in Genetics.
2014 Italian National Scientific Qualification as Associate Professor in Genetics.
2009 Research award from the Rector of the University of Modena and Reggio Emilia.
2003-2005 Three years FIRC Fellowship.
1998 Telethon Fellowship.

Teaching
2019-present, Cancer epigenetics, Dep. of Life Sciences, University of Modena and Reggio Emilia.
2015-present, Epigenetic Mechanisms of Genome Regulation, Dep. of Life Sciences, University of Modena and Reggio Emilia.
2005-present, Genetics for Biotechnology, Dep. of Life Sciences, University of Modena and Reggio Emilia.
2009-2010, Epigenetic Mechanisms of Genome Regulation, Biosciences and Biotechnology Faculty, University of Modena and Reggio Emilia.
2004-2008, Molecular Genetics, Biosciences and Biotechnology Faculty, University of Modena and Reggio Emilia.

Tutoring Assistance and Supervisor of Research Activity
2017-2020, Supervisor of the research activity of Dr. Belluti, recipient of a three-years AIRC fellowhip. Title: “Switch of NF-YA splice variants in prostate cancer development and progression”.
2012-2014, Supervisor of the research activity of Dr. Benatti, recipient of a three-years AIRC fellowhip. Title: “Specific and common functions of NF-Y subunits in the regulation of the cell cycle”.
2012, Co-Supervisor of the research activity Dr. Benatti, recipient of the EMBO fellowship at the Cancer Institute, University College London, Lab. of Prof. Daniel Hochhauser. Title: “Cancer therapy targeting NF-Y interactions with DNA”.
2007-2008, Co-Supervisor of the research activity of Dr. Basile, recipient of a two-years AIRC fellowship. Title.” Study of the biological effects induced by the histone-like transcription factor NF-Y”.
2009-present, Supervisor of 3 PhD students in Molecular and Regenerative Medicine, University of Modena and Reggio Emilia.
Modena and Reggio Emilia.
2005-2008, Supervisor of 2 PhD students in Evolutionary Biology, University of Modena and Reggio Emilia.
2007-present, Supervisor of 60 Bachelor and Master degree Theses in Biotechnology and Biological Sciences, University of Modena and Reggio Emilia.

Grants (2009-2024)
2023-2025 PRIN2022 (Italian Ministry for Universities and Research), Role: Principal Investigator. Title: “Role of NF-Y and SMYD3 transcriptional modulators in aggressiveness of hormone-related cancers”.
2021-2022 FAR2021 (Fondo di Ateneo per la Ricerca). Role: Principal Investigator. Title: “Role of the transcription factor NF Y in genome stability and DNA damage response in skeletal muscle stem cells”.
2019-2023 AIRC-Investigator Grant. Role: Principal Investigator. Title: The transcription factor NF-Y and its splice variants: expression, activity and role in prostate cancer.
2017-2018 FAR2017 (Fondo di Ateneo per la Ricerca). Role: Principal Investigator. Title: “Regulation of muscle growth and regeneration by the transcription factor NF-Y”.

2016-2017 FAR2015 (Fondo di Ateneo per la Ricerca). Role: Unit head. Title: “Rational design of curcumin-based bifunctional ligands for early diagnosis and therapy of Alzheimer’s disease”.
2016 Fondazione di Vignola. Role: Principal Investigator. Title: “Identification of the molecular mechanisms controlling the tumor suppressor p57kip2: basis for the development of a new therapeutic strategy in prostate cancer”.
2015-2016 AFM Telethon-Investigator Grant. Role: Principal Investigator and Coordinator. Title: “NF-YA as a molecular switch with therapeutic potential in muscle regeneration”.
2014-2016 AIRC-Investigator Grant. Role: Principal Investigator. Title: The NF-Y-p53 connection: implications on cancer cell 2013-2014 AFM Telethon-Trampoline Grant. Role: Principal Investigator and Coordinator. Title: “NF-YAs pharmacological therapy to potentiate the proliferative capacity of muscle satellite cells”.
survival and death.
2012-2013 Fondazione di Vignola. Role: Unit head. Title: “Bio-active glasses: new materials for controlled release of curcuminoids chemotherapic drugs”.
2010-2012 PRIN-MIUR 2008 (Ministero dell’Istruzione, dell’ Università e della Ricerca). Role: Unit partecipant. Unit head: Prof. A. Cossarizza, Coordinator: Prof. P. Bernardi. Title: Regulation of the expression of the Lon protease following mitochondrial oxidative damage.
2009-2011 AIRC-My First AIRC Grant. Role: Principal Investigator. Title: “Exploring the role of the NF-Y/p53 duo in curcuminoids chemopreventive activity”.

Bibliometric indicators related to publications and citations
ORCID 0000-0003-2864-4820
Total Publications: 58
Total Citations (Scopus): 8224
H-index (Scopus): 29
i10-index (Scholar): 42

Selected publications (2005-2024)

- Rigillo G, Belluti S, Campani V, Ragazzini G, Ronzio M, Miserocchi G, Bighi B, Cuoghi L, Mularoni V, Zappavigna V, Dolfini D, Mercatali L, Alessandrini A, **Imbriano C.** (2023) The NF-Y splicing signature controls hybrid EMT and ECM-related pathways to promote aggressiveness of colon cancer. Cancer Lett.; 567:216262. doi: 10.1016/j.canlet.2023.216262.
- **Imbriano C**, Belluti S. Histone Marks-Dependent Effect on Alternative Splicing: New Perspectives for Targeted Splicing Modulation in Cancer? (2022) Int J Mol Sci.; 23(15):8304. doi: 10.3390/ijms23158304.
- Belluti S, Semeghini V, Rigillo G, Ronzio M, Benati D, Torricelli F, Reggiani Bonetti L, Carnevale G, Grisendi G, Ciarrocchi A, Dominici M, Recchia A, Dolfini D, **Imbriano C.** (2021) Alternative splicing of NF-YA promotes prostate cancer aggressiveness and represents a new molecular marker for clinical stratification of patients. J Exp Clin Cancer Res.; 40(1):362. doi: 10.1186/s13046-021-02166-4.
- 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.** (2021) The transcription factor NF-Y participates to stem cell fate decision and regeneration in adult skeletal muscle. Nat Commun.;12(1):6013. doi: 10.1038/s41467-021-26293-w.
- Belluti S, Rigillo, G., Imbriano, C. (2020) Transcription Factors in Cancer: When Alternative Splicing Determines Opposite Cell Fates. Cells, 9, 760.
- Belluti S, Semeghini V, Basile V, Rigillo G, Salsi V, Genovese F, Dolfini D, **Imbriano C.** (2018) An autoregulatory loop controls the expression of the transcription factor NF-Y. Biochim Biophys Acta. pii: S1874-9399(17)30433-9. doi: 10.1016/j.bbagrm.2018.02.008.
- Basile V, Baruffaldi F, Dolfini D, Belluti S, Benatti P, Ricci L, Artusi V, Tagliafico E, Mantovani R, Molinari S, **Imbriano C.** (2016) NF-YA splice variants have different roles on muscle differentiation. Biochim Biophys Acta Gene Reg. Mech.;1859(4):627-38.
- Benatti P, Basile V, Dolfini D, Belluti S, Tomei M, **Imbriano C.** (2016) NF-Y loss triggers p53 stabilization and apoptosis in HPV18-positive cells by affecting E6 transcription. Oncotarget, doi: 10.18632/oncotarget.9974.

• Benatti P, Belluti S, Miotto B, Neusiedler J, Dolfini D, Drac M, Basile V, Schwob E, Mantovani R, Blow JJ, **Imbriano C.** (2016) Direct non transcriptional role of NF-Y in DNA replication. BBA Mol. Cell Res., 1863: 673–685.
• Fleming JD, Pavesi G, Benatti P, **Imbriano C**, Mantovani R, Struhl K. (2013) NF-Y coassociates with FOS at promoters, enhancers, repetitive elements, and inactive chromatin regions, and is stereo-positioned with growth-controlling transcription factors.Genome Res., 23(8):1195-209.
• **Imbriano C**, Gnesutta N, Mantovani R. (2012) The NF-Y/p53 liaison: Well beyond repression. Biochim Biophys Acta, 1825(2):131-139.
• Benatti P, Dolfini D, Viganò A, Ravo M, Weisz A, **Imbriano C.** (2011) Specific inhibition of NF-Y subunits triggers different cell proliferation defects. Nucleic Acids Res., 39(13):5356-68.
• Benatti ., Basile V, Merico D, Fantoni LI, Tagliafico E and **Imbriano C.** (2008). A balance between NF-Y and p53 governs the pro- and anti-apoptotic transcriptional response. Nucleic Acids Research, 36(5):1415-28.
• Donati G, **Imbriano C** and Mantovani R. (2006). Dynamic recruitment of transcription factors and epigenetic changes on the ER stress response gene promoters. Nucleic Acid Res., 34(10):3116-27.
• Basile V, Mantovani R and **Imbriano C.** (2006). DNA-damage promotes HDAC4 nuclear localization and G2/M promoters repression via p53 C-terminal lysines, J Biol. Chem., 281(4):2347-57.
• **Imbriano C**, Gurtner A, Cocchiarella F, Di Agostino S, Basile V, Gostissa M, Dobbelstein M, Del Sal G, Piaggio G, Mantovani R. (2005). Direct p53 transcriptional repression: in vivo analysis of CCAAT-containing G2/M promoters, Mol Cell Biol. 25(9):3737-51.

Complete list of publications: https://pubmed.ncbi.nlm.nih.gov/?term=imbriano+c

Modena, 04/07/2024

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04.07.2024
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