PERSONAL INFORMATION

Massimo Santoro

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Gender M | *Date of birth* 28/07/1961 | *Nationality* Italian

Enterprise	University	EPR
☐ Management Level	☒ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ Mid-Management Level	☐ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

From - To

1989 to 2002.
Research Associate of the Italian National Research Council (C.N.R.)
Istituto di Endocrinologia ed Oncologia Sperimentale “G. Salvatore” of Naples

2002-to date.
Full Professor of General Pathology (MED/04) at the Medical School of the University “Federico II” of Naples

RESEARCH ACTIVITIES

M. Santoro contributed to the identification of the RET/PTC chimeric oncogenes in thyroid carcinoma, and demonstrated that mutations in MEN2 syndromes and sporadic medullary thyroid carcinoma convert RET into a dominant oncogene while those present in Hirschsprung's disease lead to RET inactivation. Moreover, he characterized several small molecule RET kinase inhibitors. One of them, vandetanib, was approved by FDA and EMA for MTC currently undergoing clinical evaluation.

EDUCATION AND TRAINING

From - To

1981-1986 MD degree
University of Naples- Federico II

1987-1992 PhD degree in 1992 at the Dipartimento di Biologia e Patologia Cellulare e Molecolare of Naples.

1989
PostDoc at Divisions of Endocrinology and Internal Medicine of Mayo Clinic (Mn)

1992, 1993, 1994
PostDoc periods at Lab. of Molecular and Cellular Biology of the NCI, NIH

1998
Visiting scientist at Dept. of Pharmacology, University of New York

Editorial activity Associate Editor/Member of Editorial Boards of J. Biological Chemistry, J. Clinical Endocrinology and Metabolism, Thyroid, Endocrine-related Cancer, Molecular and Cellular Endocrinology

Invited presentations European Thyroid Asssociation, American Thyroid Association, World Thyroid Congress, AACR (American Association Cancer Research), ENDO (international endocrine society)

Grants NIH RO1, EU FP6 programme, Italian Association for Cancer Research, National research council

MOST RELEVANT PUBLICATIONS

Federico G, Carrillo F, Dapporto F, Chiariello M, Santoro M, Bellelli R, Carlomagno F. NCOA4 links iron bioavailability to DNA metabolism. **Cell Rep**. 2022 Aug 16;40(7):111207. doi: 10.1016/j.celrep.2022.111207. PMID: 35977492.

Salvatore D, Santoro M, Schlumberger M. The importance of the RET gene in thyroid cancer and therapeutic implications. **Nat Rev Endocrinol**. 2021 May;17(5):296-306. doi: 10.1038/s41574-021-00470-9. Epub 2021 Feb 18. PMID: 33603219.

Bellelli R, Federico G, Matte' A, Colecchia D, Iolascon A, Chiariello M, Santoro M, De Franceschi L, Carlomagno F. NCOA4 Deficiency Impairs Systemic Iron Homeostasis. **Cell Rep**. 2016 Jan 26;14(3):411-421. doi: 10.1016/j.celrep.2015.12.065. Epub 2016 Jan 14. PMID: 26776506.

Frett B, Carlomagno F, Moccia ML, Brescia A, Federico G, De Falco V, Admire B, Chen Z, Qi W, Santoro M, Li HY. Fragment-Based Discovery of a Dual pan-RET/VEGFR2 Kinase Inhibitor Optimized for Single-Agent Polypharmacology. **Angew Chem Int Ed Engl**. 2015 Jul 20;54(30):8717-21. doi: 10.1002/anie.201501104. Epub 2015 Jun 30. PMID: 26126987; PMCID: PMC4535927.

Bellelli R, Castellone MD, Guida T, Limongello R, Dathan NA, Merolla F, Cirafici AM, Affuso A, Masai H, Costanzo V, Grieco D, Fusco A, Santoro M, Carlomagno F. NCOA4 transcriptional coactivator inhibits activation of DNA replication origins. **Mol Cell.** 2014 Jul 3;55(1):123-37. doi: 10.1016/j.molcel.2014.04.031. Epub 2014 Jun 5. PMID: 24910095.

Schlumberger M, Carlomagno F, Baudin E, Bidart JM, Santoro M. New therapeutic approaches to treat medullary thyroid carcinoma. **Nat Clin Pract Endocrinol Metab**. 2008 Jan;4(1):22-32. doi: 10.1038/ncpendmet0717. PMID: 18084343.

Knowles PP, Murray-Rust J, Kjaer S, Scott RP, Hanrahan S, Santoro M, Ibáñez CF, McDonald NQ. Structure and chemical inhibition of the RET tyrosine kinase domain. **J Biol Chem.** 2006 Nov 3;281(44):33577-87. doi: 10.1074/jbc.M605604200. Epub 2006 Aug 23. PMID: 16928683.

Santoro M, Carlomagno F. Drug insight: Small-molecule inhibitors of protein kinases in the treatment of thyroid cancer. **Nat Clin Pract Endocrinol Metab**. 2006 Jan;2(1):42-52. doi: 10.1038/ncpendmet0073. PMID: 16932252.

Viglietto G, Motti ML, Bruni P, Melillo RM, D'Alessio A, Califano D, Vinci F, Chiappetta G, Tsichlis P, Bellacosa A, Fusco A, Santoro M. Cytoplasmic relocalization and inhibition of the cyclin-dependent kinase inhibitor p27(Kip1) by PKB/Akt-mediated phosphorylation in breast cancer. **Nature Med**. 2002 Oct;8(10):1136-44. doi: 10.1038/nm762. Epub 2002 Sep 16. PMID: 12244303.

Carlomagno F, De Vita G, Berlingieri MT, de Franciscis V, Melillo RM, Colantuoni V, Kraus MH, Di Fiore PP, Fusco A, Santoro M. Molecular heterogeneity of RET loss of function in Hirschsprung's disease. **EMBO J**. 1996 Jun 3;15(11):2717-25. PMID: 8654369; PMCID: PMC450207.

Santoro M, Carlomagno F, Romano A, Bottaro DP, Dathan NA, Grieco M, Fusco A, Vecchio G, Matoskova B, Kraus MH, et al. Activation of RET as a dominant transforming gene by germline mutations of MEN2A and MEN2B. **Science.** 1995 Jan 20;267(5196):381-3. doi: 10.1126/science.7824936. PMID: 7824936.

Fusco A, Grieco M, Santoro M, Berlingieri MT, Pilotti S, Pierotti MA, Della Porta G, Vecchio G. A new oncogene in human thyroid papillary carcinomas and their lymph-nodal metastases. **Nature**. 1987 Jul 9-15;328(6126):170-2. doi: 10.1038/328170a0. PMID: 3600795.