Claudio Santoro

Curriculum vitae

Personal Data

Born: Bari, 9 July 1955

Nationality: Italian

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Academic Training and Degrees

1981	Medical Doctor cum Laude	University of Torino, Italy

Professional and Research Experience

1981 - 1982	Training at the Guy's Hospital, Transplantation Unit, London (UK)
1982 - 1984	Postdoctoral Fellow at the European Molecular Biology Laboratory, Heidelberg (D), Laboratory of Riccardo Cortese
1984 - 1985	Assistant Professor at the Department of Genetics and Biology, University of Torino (Italy)
1986 – 1988	Visiting Scientist at the University of California, Berkeley, Laboratory of Robert Tjian
1989 - 1995	Associate Professor of Biology at the University of Trieste (Italy), and group leader at the National Laboratory of Biotechnology (LNCIB)
1996 - 2000	Associate Professor of Biology at the University of Piemonte Orientale (Italy), Department of Health Sciences, Novara.
2001 - present	Full Professor of Experimental Biology at the University of Piemonte Orientale (Italy), Department of Health Sciences, Novara
2005 - 2016	Coordinator of the Graduate Program in Biotechnology
2010 - 2014	Director of the Interdisciplinary Research center on Autoimmune Diseases – IRCAD - Novara

HONOURS AND FELLOWSHIPS

1981 ANNA VILLA RUSCONI FELLOWSHIP FOR TRAINING IN EXPERIMENTAL MEDICINE

1982 EMBL POSTDOCTORAL FELLOWSHIP

1986 EMBO LONG TERM FELLOWSHIP

1987 HHMI VISITING SCIENTIST

1995 MEMBER OF ITALIAN ASSOCIATION FOR BIOLOGY AND GENETICS

2014 VISITING PROFESSOR UNIVERSITY OF ROCHESTER, NY USA

MAIN FIELDS OF INTEREST

1. Gene expression regulation
2. Biotechnology
3. Autoimmunity

CURRENT ISSUES OF RESEARCH

1. Autoimmunome profiling

Exploiting the power of phage display technologies we developed a platform that allows the discovery and characterization of biomolecular interactions (protein-protein, protein-DNA, etc).

We constructed large libraries displaying human cDNA-derived proteins and used them to profile the autoantibody repertoire (autoimmunome) in sera from patients with autoimmune diseases (e.g.: type 1 diabetes, celiac disease).

2. SINEUPs: non-coding RNAs to enhance protein translation in vitro and in vivo

SINEUPs are non-coding RNAs that are able to specifically stimulate protein translation of a gene of interest. SINEUP activity depends on the combination of two elements present in an RNA molecule: a 5' end short sequence (Binding Domain) that complements to the sense protein-coding mRNA and determines target selection; an inverted SINE B2 sequence (Effector Domain), that is essential for protein synthesis up-regulation. We are developing SINEUP molecules to target a variety of protein coding mRNAs of biotechnological or therapeutic interests.

TOP FIVE PAPERS

1. Patrucco L, Peano C, Chiesa A, Guida F, Luisi I, Boria I, Mignone F, De Bellis G, Zucchelli S, Gustincich S, Santoro C, Sblattero D, Cotella D. Identification of novel proteins binding the AU-rich element of α-prothymosin mRNA through the selection of open reading frames (RIDome). RNA Biol. 2015 DOI: 10.1080/15476286.2015.1107702

2. Carrieri C, Cimatti L, Biagioli M, Beugnet A, Zucchelli S, Fedele S, Pesce E, Ferrer I, Collavin L, Santoro C, Forrest AR, Carninci P, Biffo S, Stupka E, Gustincich S. Long non-coding antisense RNA controls Uchl1 translation through an embedded SINEB2 repeat. Nature. 2012 Nov 15;491(7424):454-7.

3. Di Niro R, Sulic AM, Mignone F, D'Angelo S, Bordoni R, Iacono M, Marzari R, Gaiotto T, Lavric M, Bradbury AR, Biancone L, Zevin-Sonkin D, De Bellis G, Santoro C, Sblattero D. Rapid interactome profiling by massive sequencing. Nucleic Acids Res. 2010 May;38(9):e110. doi: 10.1093/nar/gkq052.

4. Biagioli M, Pinto M, Cesselli D, Zaninello M, Lazarevic D, Roncaglia P, Simone R, Vlachouli C, Plessy C, Bertin N, Beltrami A, Kobayashi K, Gallo V, Santoro C, Ferrer I, Rivella S, Beltrami CA, Carninci P, Raviola E, Gustincich S. Unexpected expression of alpha- and beta-globin in mesencephalic dopaminergic neurons and glial cells. Proc Natl Acad Sci U S A. 2009 Sep 8;106(36):15454-9. doi: 10.1073/pnas.0813216106.

5. Santoro C, Mermod N, Andrews PC, Tjian R. A family of human CCAAT-box-binding proteins active in transcription and DNA replication: cloning and expression of multiple cDNAs. Nature. 1988 Jul 21;334(6179):218-24.