

**CURRICULUM VITAE DEL
Prof. Giovanni Cesareni**

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-Nato a Bergamo il 1-9-1949.

CURRICULUM SCIENTIFICO	
20-6-1973	Laureato in Fisica all'Università di Roma (La Sapienza). Rel. Prof. Ageno
Gen 74-Mar 75	Borsa di studio del "Centro interdisciplinare di Scienze Matematiche e sue Applicazioni dell' Accademia dei Lincei"
Set 76-Set 79	"EMBO long term fellowship" nel gruppo del dr. S. Brenner al laboratorio di Biologia Molecolare del Medical Research Council in Cambridge
Set 79-Set 88	Capogruppo nel gruppo di Genetica Molecolare e responsabile del progetto Biotecnologie all' European Molecular Biology Laboratory di Heidelberg
Ott 86-Ott 89	Professore straordinario di Genetica presso la facoltà di Scienze Matematiche Fisiche e Naturali dell'Università di Messina
Ott 1989-.....	Professore ordinario di Genetica Molecolare presso la facoltà di Scienze Matematiche Fisiche e Naturali della II Università di Roma, Tor Vergata
Ott 1992-	Coordinatore della scuola di Dottorato in Biologia Cellulare e Molecolare

INCARICHI E PREMI	
Gen 1986-	E' membro dell'European Molecular Biology Organization (EMBO)
1997-2000	E' stato membro dell'EMBO fellowship Committee
1996-2000	E' stato Presidente del Consiglio Scientifico dell'Istituto di Neurobiologia del CNR.
1997-2001	E' stato membro del comitato scientifico dell'AIRC
1999	Vincitore del premio Marotta
1999-	E' membro dell'Editorial Board di FEBS Letters
1999-	E' membro dell'Editorial Board di Comparative Functional Genomics
2005-	E' membro del 'Publication and Electronic Information' Committee dell'EMBO

Il professor Cesareni ha pubblicato più di 150 lavori su riviste internazionali con alto fattore di impatto. I seguenti cinque articoli sono quelli che hanno ottenuto un maggior numero di citazioni

Landgraf, C., Panni, S., Montecchi-Palazzi, L., Castagnoli, L., et al., *PLoS Biol* 2004, 2, E14.

Cesareni, G., Sudol, M. and Yaffe, M., *Modular protein domains*, Wiley-VCH Verlag GmbH & Co. KGaA 2004.

Zanzoni, A., Montecchi-Palazzi, L., Quondam, M., Ausiello, G., et al., *FEBS Lett* 2002, 513, 135-140.

Tong, A. H., Drees, B., Nardelli, G., Bader, G. D., et al., *Science* 2002, 295, 321-324.

Lawson, D. M., Artymiuk, P. J., Yewdall, S. J., Smith, J. M., et al., *Nature* 1991, 349, 541-544.

Lacatena, R. M., Banner, D. W., Castagnoli, L. and Cesareni, G., *Cell* 1984, 37, 1009-1014.

Lacatena, R. M. and Cesareni, G., *Nature* 1981, 294, 623-626.

Principali contributi scientifici

-Sviluppo di vettori e tecnologie per il DNA ricombinate

Caratterizzazione dei meccanismi che controllano la replicazione del plasmide ColE1. Questo lavoro ha permesso di mettere in evidenza per la prima volta un meccanismo regolativo basato su un piccolo RNA non codificante.

-Caratterizzazione della specificità di riconoscimento di famiglie di domini che riconoscono piccoli domini.

-Sviluppo della tecnologia del phage display utilizzando la proteina a molte copie pVIII.

-La banca dati di interazione proteica MINT

Finanziamenti

Il prof Cesareni ha ottenuto numerosi finanziamenti da enti pubblici (MIUR, Sanità, CNR) e privati (AIRC, Telethon). Inoltre ha partecipato a sei progetti Europei e ne ha coordinato due

Curriculum Vitae of Prof Gianni Cesareni

-Personal Status:

- Date of birth: September 1st ,1949
- Place of Birth: Bergamo (Italy)
- Marital Status: Married

-Education:

July 1973. Degree in Physics at the University of Rome La Sapienza

-Professional Record:

- September 1976-September 1979 Postdoct at the Laboratory of Molecular Biology of the MRC in Cambridge (Dr. Sidney Brenner).
- September 1979-September 1988 Group leader at the European Molecular Biology Laboratory in Heidelberg
- October 1986-Ottobre 1989 Professor of Genetics at the University of Messina
- October 1989-.... Professor of Molecular Genetics at the University of Rome Tor Vergata.

Memberships and Responsibilities.

1986-..... Member of the European Molecular Biology Organization.

1992-..... Co-ordinator of the PhD program in Molecular and Cellular Biology.

1997-2000 Member of the EMBO Fellowship Committee.
 1997-2000 Member of the Scientific Committee of the Italian Association for Cancer Research (AIRC)
 1998 - 2002 President of the Scientific Committee of the CNR Institute of Neurobiology.
 1999 - Member of the Editorial Board of FEBS Letters.
 2000 - Member of the Editorial Board of Comparative and Functional Genomics
 2005- Member of the EMBO Publication Committee

Main Scientific Achievements

-Development of several vectors for recombinant DNA technology including the first lambda replacement vector permitting a selection for insert containing clones and the first phagemid permitting the easy preparation of DNA insert in the single stranded form.

Karn, J., Brenner, S., Barnett, L. and Cesareni, G. (1980) Novel bacteriophage lambda cloning vector *Proc Natl Acad Sci U S A*, **77**, 5172-5176.
 Dente, L., Cesareni, G. and Cortese, R. (1983) pEMBL: a new family of single stranded plasmids *Nucleic Acids Res*, **11**, 1645-1655.

-Contribution to the elucidation of the mechanism underlying control of ColE1 plasmid replication. This work represent the first demonstration of a control mechanism, based on the interaction of two complementary RNAs and is used as a paradigm for a variety of recently discovered mechanisms that are also based on the interaction between RNAs. Furthermore this work contributed to the discovery of the Rop protein that catalyses the hybridization. This protein and its function has been extensively characterized at the genetic and structural level.

Lacatena, R.M. and Cesareni, G. (1981) Base pairing of RNA I with its complementary sequence in the primer precursor inhibits ColE1 replication *Nature*, **294**, 623-626.
 Cesareni, G., Cornelissen, M., Lacatena, R.M. and Castagnoli, L. (1984) Control of pMB1 replication: inhibition of primer formation by Rop requires RNA1 *Embo J*, **3**, 1365-1369.
 Lacatena, R.M., Banner, D.W., Castagnoli, L. and Cesareni, G. (1984) Control of initiation of pMB1 replication: purified Rop protein and RNA I affect primer formation in vitro *Cell*, **37**, 1009-1014.
 Castagnoli, L., Scarpa, M., Kokkinidis, M., Banner, D.W., Tsernoglou, D. and Cesareni, G. (1989) Genetic and structural analysis of the ColE1 Rop (Rom) protein *Embo J*, **8**, 621-629.

-Characterization of the mechanisms controlling plasmid stability in the yeast 2 micron plasmid. Including the characterization of the role played by the Rep1 and Rep2 proteins and of the cis acting region.

- Murray, J.A., Scarpa, M., Rossi, N. and Cesareni, G. (1987) Antagonistic controls regulate copy number of the yeast 2 μ plasmid *Embo J*, **6**, 4205-4212.
- Murray, J.A., Cesareni, G. and Argos, P. (1988) Unexpected divergence and molecular coevolution in yeast plasmids *J Mol Biol*, **200**, 601-607.

-Characterization of three small yeast RNAs involved in RNA processing and protein secretion.

- Bally, M., Hughes, J. and Cesareni, G. (1988) SnR30: a new, essential small nuclear RNA from *Saccharomyces cerevisiae* *Nucleic Acids Res*, **16**, 5291-5303.
- Felici, F., Cesareni, G. and Hughes, J.M. (1989) The most abundant small cytoplasmic RNA of *Saccharomyces cerevisiae* has an important function required for normal cell growth *Mol Cell Biol*, **9**, 3260-3268.
- Hughes, J.M., Konings, D.A. and Cesareni, G. (1987) The yeast homologue of U3 snRNA *Embo J*, **6**, 2145-2155.

-Contribution to the development of phage display. The group was the first to show that the major capsid protein of filamentous phage can be used to display highly diverse peptide repertoires. More recently it has been shown that by fusing cDNA fragments to the D capsid gene of bacteriophage lambda it was possible to obtain a library of protein domains where from to select natural protein ligands. This technology has been extensively used to characterize protein interaction.

- Felici, F., Castagnoli, L., Musacchio, A., Jappelli, R. and Cesareni, G. (1991) Selection of antibody ligands from a large library of oligopeptides expressed on a multivalent exposition vector *J Mol Biol*, **222**, 301-310.
- Zucconi, A., Dente, L., Santonico, E., Castagnoli, L. and Cesareni, G. (2001) Selection of ligands by panning of domain libraries displayed on phage lambda reveals new potential partners of synaptojanin 1 *J Mol Biol*, **307**, 1329

-Elucidation of the recognition specificity of small protein recognition domains. The group of the principal investigator has contributed to characterize the recognition specificity of several SH3, EH SH2, PTB and VHS domains

- Dente, L., Vetriani, C., Zucconi, A., Pelicci, G., Lanfrancone, L., Pelicci, P.G. and Cesareni, G. (1997) Modified phage peptide libraries as a tool to study specificity of phosphorylation and recognition of tyrosine containing peptides *J Mol Biol*, **269**, 694-703.
- Salcini, A.E., Confalonieri, S., Doria, M., Santolini, E., Tassi, E., Minenkova, O., Cesareni, G., Pelicci, P.G. and Di Fiore, P.P. (1997) Binding specificity and in vivo targets of the EH domain, a novel protein-protein interaction module *Genes Dev*, **11**, 2239-2249.
- Paoluzi, S., Castagnoli, L., Lauro, I., Salcini, A.E., Coda, L., Fre', S., Confalonieri, S., Pelicci, P.G., Di Fiore, P.P. and Cesareni, G. (1998) Recognition specificity of individual EH domains of mammals and yeast *EMBO J*, **17**, 6541-6550.
- Mongiovì, A.M., Romano, P.R., Panni, S., Mendoza, M., Wong, W.T., Musacchio, A., Cesareni, G. and Paolo Di Fiore, P. (1999) A novel peptide-SH3 interaction *Embo J*, **18**, 5300-5309.
- Tong, A.H., Drees, B., Nardelli, G., Bader, G.D., Brannetti, B., Castagnoli, L., Evangelista, M., Ferracuti, S., Nelson, B., Paoluzi, S., Quondam, M., Zucconi, A., Hogue, C.W., Fields, S., Boone, C. and Cesareni, G. (2002) A combined experimental and computational

strategy to define protein interaction networks for peptide recognition modules. *Science*, **295**, 321-324.

Landgraf, C., Panni, S., Montecchi-Palazzi, L., Castagnoli, L., Schneider-Mergener, J., Volkmer-Engert, R. and Cesareni, G. (2004) Protein interaction networks by proteome peptide scanning. *PLoS Biol*, 2, E14.

-Establishment of MINT (<http://mint.bio.uniroma2.it/mint>) that is associated through the IMEx consortium with the other leading protein interaction databases

Hermjakob, H., Montecchi-Palazzi, L., Bader, G.,, Cesareni, G., Xenarios, I., Eisenberg, D., Steipe, B., Hogue, C. and Apweiler, R. (2004) The HUPO PSI's molecular interaction format--a community standard for the representation of protein interaction data. *Nat Biotechnol*, 22, 177-183.

Zanzoni, A., Montecchi-Palazzi, L., Quondam, M., Ausiello, G., Helmer-Citterich, M. and Cesareni, G. (2002) MINT: a Molecular INTERaction database. *FEBS Lett*, 513, 135-140.

Grants

He has been awarded several grants from National and International agencies including charities like AIRC and Telethon.

Furthermore he has coordinated two European projects involving ten groups of six different nationalities in the framework of the Biotechnology program

Presently the group of the principal investigator is supported by two grants from the EU FP6 and one from AIRC.