

## Curriculum Vitae Luisa Castagnoli

University Degree in Biological Sciences at the University of Rome La Sapienza in 1977. Certificate of Proficiency-University of Cambridge (UK) in 1978

Since 1986 Assistant Professor of Genetics.

Since 2001 Associate Professor of Genetics.

Since 2008 Professor of Genetics.

Post doctoral fellow at the Laboratory of Molecular Biology of the Medical Research Council in Cambridge (England) in the group of Dr. Sydney Brenner 1977-1980.

From 1980 to 1988, worked at the European Molecular Biology Laboratory (EMBL) in Heidelberg (Germany).

Since 2005: the author and the external supervisor for the public database of biological processes Reactome (<http://www.reactome.org>)

In recent years, scientific interest has focused on the definition of the cellular phospho-proteome, trying to describe the dynamics of phosphorylation and dephosphorylation of several proteins in response to hormonal stimuli, such as insulin or epidermal growth factor (EGF). The recent effort has focused on the study of differentiation in muscle cells and signal transduction altered in tumors. This work is carried out on different cell lines, using imaging and proteomic techniques, as well as biochemistry and genetics, in order to follow both the dynamics of signaling change, protein interaction and localization in a particular cell type but also the similarities and differences related to cell-specificity.

Laureata in Scienze Biologiche presso l'Università di Roma La Sapienza, nel 1977.

Certificate of Proficiency-University of Cambridge (UK) 1978

Dal 1986 Ricercatore Confermato di Genetica.

Dal 2001 Professore Associato di Genetica.

Dal 2008 Professore Ordinario di Genetica.

Post dottorato presso il Laboratorio di Biologia Molecolare del Medical Research Council a Cambridge (Inghilterra) nel gruppo del Dr. Sidney Brenner dal 1977 al 1980.

Dal 1980 al 1988, ricercatore presso il Laboratorio Europeo di Biologia Molecolare (EMBL) di Heidelberg (Germania).

Dal 2005: autore e supervisore esterno per la banca dati pubblica di processi biologici Reactome (<http://www.reactome.org>)

Negli ultimi anni, l'interesse scientifico si è concentrato sulla definizione del fosfo-proteoma cellulare, cercando di descrivere la dinamica della fosforilazione e defosforilazione di diverse proteine in risposta a stimoli ormonali, tipo insulina o fattore di crescita epidermico (EGF). Lo sforzo recente è concentrato sullo studio del differenziamento in cellule muscolari e della trasduzione del segnale alterato in tumori. Questo lavoro viene condotto su diverse linee cellulari, utilizzando tecniche di proteomica, biochimica e genetica, al fine di cogliere sia la dinamica della modificazione, interazione e localizzazione in un particolare tipo cellulare ma anche la similarità e differenza della risposta cellulo-specifica.

Luisa CASTAGNOLI Pubblicazioni 2009-2013

### 1. [The SH2 Domain Interaction Landscape.](#)

Tinti M, Kiemer L, Costa S, Miller ML, Sacco F, Olsen JV, Carducci M, Paoluzi S, Langone F, Workman CT, Blom N, Machida K,

Thompson CM, Schutkowski M, Brunak S, Mann M, Mayer BJ, Castagnoli L, Cesareni G.  
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2. [Mapping the human phosphatome on growth pathways.](#)

Sacco F, Gherardini PF, Paoluzi S, Saez-Rodriguez J, Helmer-Citterich M, Ragnini-Wilson A, Castagnoli L, Cesareni G.  
Mol Syst Biol. 2012;8:603. doi: 10.1038/msb.2012.36.  
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3. [HuPho: the human phosphatase portal.](#)

Liberti S, Sacco F, Calderone A, Perfetto L, Iannuccelli M, Panni S, Santonico E, Palma A, Nardoza AP, Castagnoli L, Cesareni G.  
FEBS J. 2013 Jan;280(2):379-87. doi: 10.1111/j.1742-4658.2012.08712.x.  
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4. [Counteracting effects operating on Src homology 2 domain-containing protein-tyrosine phosphatase 2 \(SHP2\) function drive selection of the recurrent Y62D and Y63C substitutions in Noonan syndrome.](#)

Martinelli S, Nardoza AP, Delle Vigne S, Sabetta G, Torreri P, Bocchinfuso G, Flex E, Venanzi S, Palleschi A, Gelb BD, Cesareni G, Stella L, Castagnoli L, Tartaglia M.  
J Biol Chem. 2012 Aug 3;287(32):27066-77. doi: 10.1074/jbc.M112.350231.  
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5. [The human phosphatase interactome: An intricate family portrait.](#)

Sacco F, Perfetto L, Castagnoli L, Cesareni G.  
FEBS Lett. 2012 Aug 14;586(17):2732-9. doi: 10.1016/j.febslet.2012.05.008.  
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PMID: 22626554

6. [Reactive oxygen species and epidermal growth factor are antagonistic cues controlling SHP-2 dimerization.](#)

Nardoza AP, D'Orazio M, Trapannone R, Corallino S, Filomeni G, Tartaglia M, Battistoni A, Cesareni G, Castagnoli L.  
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7. [The Protein-Protein Interaction tasks of BioCreative III: classification/ranking of articles and linking bio-ontology concepts](#)

[to full text.](#)

Krallinger M, Vazquez M, Leitner F, Salgado D, Chatr-Aryamontri A, Winter A, Perfetto L, Briganti L, Licata L, Iannuccelli M, Castagnoli L, Cesareni G, Tyers M, Schneider G, Rinaldi F, Leaman R, Gonzalez G, Matos S, Kim S, Wilbur WJ, Rocha L, Shatkay H, Tendulkar AV, Agarwal S, Liu F, Wang X, Rak R, Noto K, Elkan C, Lu Z, Dogan RI, Fontaine JF, Andrade-Navarro MA, Valencia A.

BMC Bioinformatics. 2011 Oct 3;12 Suppl 8:S3. doi: 10.1186/1471-2105-12-S8-S3.

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8. [Benchmarking of the 2010 BioCreative Challenge III text-mining competition by the BioGRID and MINT interaction databases.](#)

Chatr-Aryamontri A, Winter A, Perfetto L, Briganti L, Licata L, Iannuccelli M, Castagnoli L, Cesareni G, Tyers M.

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9. [The 4G10, pY20 and p-TYR-100 antibody specificity: profiling by peptide microarrays.](#)

Tinti M, Nardoza AP, Ferrari E, Sacco F, Corallino S, Castagnoli L, Cesareni G.

N Biotechnol. 2012 Jun 15;29(5):571-7. doi: 10.1016/j.nbt.2011.12.001. Epub 2011 Dec 13.

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10. [MINT, the molecular interaction database: 2012 update.](#)

Licata L, Briganti L, Peluso D, Perfetto L, Iannuccelli M, Galeota E, Sacco F, Palma A, Nardoza AP, Santonico E, Castagnoli L, Cesareni G.

Nucleic Acids Res. 2012 Jan;40(Database issue):D857-61. doi:

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11. [The protein interaction network mediated by human SH3 domains.](#)

Carducci M, Perfetto L, Briganti L, Paoluzi S, Costa S, Zerweck J, Schutkowski M, Castagnoli L, Cesareni G.

Biotechnol Adv. 2012 Jan-Feb;30(1):4-15. doi:

10.1016/j.biotechadv.2011.06.012. Epub 2011 Jun 29.

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12. [Combining peptide recognition specificity and context](#)

[information for the prediction of the 14-3-3-mediated interactome in \*S. cerevisiae\* and \*H. sapiens\*.](#)

Panni S, Montecchi-Palazzi L, Kiemer L, Cabibbo A, Paoluzi S, Santonico E, Landgraf C, Volkmer-Engert R, Bachi A, Castagnoli L, Cesareni G.

Proteomics. 2011 Jan;11(1):128-43. doi: 10.1002/pmic.201000030. Epub 2010 Dec 6.

PMID: 21182200

13.[Identification of new substrates of the protein-tyrosine phosphatase PTP1B by Bayesian integration of proteome evidence.](#)

Ferrari E, Tinti M, Costa S, Corallino S, Nardoza AP, Chatranyamontri A, Ceol A, Cesareni G, Castagnoli L.

J Biol Chem. 2011 Feb 11;286(6):4173-85. doi: 10.1074/jbc.M110.157420. Epub 2010 Dec 1.

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14.[MINT, the molecular interaction database: 2009 update.](#)

Ceol A, Chatr Aryamontri A, Licata L, Peluso D, Briganti L, Perfetto L, Castagnoli L, Cesareni G.

Nucleic Acids Res. 2010 Jan;38(Database issue):D532-9. doi: 10.1093/nar/gkp983. Epub 2009 Nov 6.

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15.[Enriching the viral-host interactomes with interactions mediated by SH3 domains.](#)

Carducci M, Licata L, Peluso D, Castagnoli L, Cesareni G.

Amino Acids. 2010 May;38(5):1541-7. doi: 10.1007/s00726-009-0375-z. Epub 2009 Nov 2.

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16.[Bayesian modeling of the yeast SH3 domain interactome predicts spatiotemporal dynamics of endocytosis proteins.](#)

Tonikian R, Xin X, Toret CP, Gfeller D, Landgraf C, Panni S, Paoluzi S, Castagnoli L, Currell B, Seshagiri S, Yu H, Winsor B, Vidal M, Gerstein MB, Bader GD, Volkmer R, Cesareni G, Drubin DG, Kim PM, Sidhu SS, Boone C.

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17.[Tumor suppressor density-enhanced phosphatase-1 \(DEP-1\) inhibits the RAS pathway by direct dephosphorylation of ERK1/2 kinases.](#)

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J Biol Chem. 2009 Aug 14;284(33):22048-58. doi: 10.1074/jbc.M109.002758.  
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18. [VirusMINT: a viral protein interaction database.](#)

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