

# Paola Coccetti

## Curriculum vitae

- Associate Professor of Biochemistry at the University of Milano-Bicocca.
- Born in Milano, 24-04-1965.
- Married, one son.

### EDUCATION

- July 1983: Secondary Education Certificate, with scientific orientation, 57/60, Liceo Scientifico Luigi Cremona, Milano.
- April 1989: Degree in Biology, Summa cum Laude. Experimental thesis on "Analisi dell'espressione del gene *CDC25* del lievito *Saccharomyces cerevisiae* posto sotto il controllo del promotore inducibile *UASGAL*", University of Milano.
- September 1994: Ph.D in Biochemistry, University of Milano. Thesis on "Caratterizzazione biochimica e funzionale del dominio catalitico di Cdc25 di *Saccharomyces cerevisiae* e del suo omologo murino CDC25Mm".

### APPOINTMENTS

- February 2020-present: Associate Professor at the Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milan, Italy (05/E1, Biochemistry).
- September 1999-January 2020: Researcher at the Department of Biotechnology and Biosciences, University of Milano-Bicocca, Milan, Italy (05/E1, Biochemistry).
- December 1996-December 1998: Post-doctoral fellow in the laboratory of Prof. Lilia Alberghina, University of Milano, Italy.
- May 1994-November 1996: Post-doctoral fellow in the laboratory of Prof. Enzo Martegani, University of Milano, Italy (European Community Project "CEE-Biotech").
- January 1994-April 1994: EMBO Short-term fellowship in the laboratory of Dr. Andrea Parmeggiani (Ecole Polytechnique, 91128 Palaiseau Cedex France).
- October 1992-April 1994: Ph.D fellow and post-doctoral fellow in the laboratory of Biochemistry at the Ecole Polytechnique, supervisor Dr. Andrea Parmeggiani (91128 Palaiseau Cedex France).
- September 1989-September 1993: Ph.D fellow from MIUR (The Italian Ministry of Scientific Research and Education) in the laboratory of Prof. E Martegani, University of Milan, Italy.

### SCIENTIFIC ACTIVITY

Coccetti's research activity concerns the study of the molecular mechanisms which regulate signal transduction, cell cycle progression and metabolism by using the budding yeast *Saccharomyces cerevisiae* as a model of eukaryotic systems. In recent years, the study has focused mainly on the effects of specific amino acids on the central carbon metabolism, mitochondrial functionality as well as proliferation.

New drugs with anti-proliferative activity on colorectal cancer were also studied in the last few years. A series of novel synthesized molecules, deriving from resveratrol, were evaluated for G2/M cell cycle arrest and inhibition of tubulin polymerization. The antitumor and apoptotic activities were studied both *in vitro* cultures and in a mouse xenograft model of colorectal cancer, opening the route to a new class of potential therapeutic agents.

Currently, the research activity is focused on the study of the effect of nutrition to prevent diseases and to reach a healthy aging. Since food has long been considered an important key to promoting

well-being and preventing disease, this line of research is aimed at better understanding the molecular mechanisms that underlie healthy nutrition. Specific legumes, fungi and bioactive components from these edible matrices are actually under study to investigate their effect on the specific pathways which regulate cellular aging and neurodegeneration.

-Referee for national and international agencies including: MIUR (Futuro in Ricerca 2010 e 2013); MIUR (VQR 2004-2010 e VQR 2011-2014, GEV 05 e GEV 06); University of Verona (Joint Projects 2012 e 2015); Babraham Institute, Cambridge.

-Scientific expert of MIUR REPRISE (Register of Expert Peer Reviewers for Italian Scientific Evaluation), Ricerca di base.

-Referee for scientific journals including: Oncogene, Cellular and Molecular Biology Letters, Molecular Biosystems, Medicinal Chemistry Communication, BMC Cancer, European Journal of Medicinal Chemistry, Biochimica et Biophysica Acta - General Subjects, Current Genetics, FEMS Yeast Research, FEMS Microbiology Letters, Yeast, Molecular and Cellular Biochemistry, Current Bioactive Compounds, Cell Systems, Molecules, OMICS, Molecular OMICS, Journal of Visualized Experiments (JoVE), Microbial Cell.

-Editor of Dataset Papers in Science Cell Biology, Hindawi Publishing Corporation, from 2013 to 2017 and Microbial Cell (Cell Physiology and Cell Signaling), Shared Science Publishers from 2017.

-Member of the Italian Society of Biochemistry (SIB).

## **TEACHING**

-2000 to present: Cellular biochemistry, Biotechnology Degree; Laboratory of cellular biochemistry, Biotechnology Degree; Functions and dynamics of intracellular proteins, Laboratory of biochemistry, Biological Science Degree.

## **ACADEMIC RESPONSABILITIES**

-2013-2017: Member of the "Teachers and Students Commission" of the School of Sciences of the University Milano-Bicocca.

-2018-present: President of the "Teachers and Students Commission" of the Department of Biotechnology and Biosciences, University of Milano-Bicocca.

## **DOCTORAL BOARD OF Ph.D PROGRAM**

-2006-2015: Member of the Ph.D board "Biotecnologie Industriali", University Milano-Bicocca.

-2013-2016: Member of the Ph.D board "Scienze della Vita", University Milano-Bicocca.

-2014-2016: Member of the Ph.D board "Biologia e Biotecnologie, University Milano-Bicocca.

-2017-present: Member of the Ph.D supervisory board "Tecnologie Convergenti per i Sistemi Biomolecolari".

## **TUTOR ACTIVITIES**

-1999-present: Tutor of Thesis in Biotechnology and Master Thesis in Industrial Biotechnology and Biology.

-2001-present: Tutor of Ph.D students:

-2001-2003

Dr. Flora Sternieri "Sic1S201A and Sic1S201E, mutants of the cyclin kinase inhibitor Sic1 of *Saccharomyces cerevisiae* at the Ck2 consensus site, show alterations in the growth/cycle coordination".

Dr. Riccardo Lorenzo Rossi "Molecular basis of critical cell size requirement during G1/S transition into *Saccharomyces cerevisiae*".

-2007-2009

Dr. Farida Tripodi "Protein kinase Ck2: a major regulator of the G1 / S transition in *Saccharomyces cerevisiae*".

-2009-2011

Dr. Sara Busnelli "Protein kinase Snf1 / AMPK: a new regulator of G1 / S transition in *Saccharomyces cerevisiae*".

-2011-2013

Dr. Raffaele Nicastro "Role of Snf1 / AMPK as regulator of cell cycle, signal transduction and metabolism in *Saccharomyces cerevisiae*".

-2018-2020

Dr. Riccardo Milanesi "Integrating omics data to understand energy homeostasis and global regulation of mitochondrial functionality".

### **SCIENTIFIC RESPONSABILITIES FOR FUNDED RESEARCH PROJECTS**

-2008

Scientific referent for the research program: "Systems Biology in yeast: the G1/S transition" carried out by Dr. Matteo Viganò, scholarship winner, Client Finlombarda S.p.a. INGENIO, Regional Fund Lombardia, within the project: "Improvement of human resources in the field of Research and Technological Development".

Scientific referent for the research program: "Characterization of the role played by the protein kinase Ck2 in the regulation of the cell cycle of the yeast *S. cerevisiae*", carried out by Dr. Stefania Pessina, scholarship winner, Client Enaip Lombardia Foundation, Regional Fund Lombardia, as part of the project: "Training / Research and Orientation".

-2011-2015

Scientific referent for the research program: "The yeast Ck2 kinase in the regulation of mitosis" carried out by Dr. Farida Tripodi, winner of research grant type A of the University of Milano Bicocca.

-2015-2017

Scientific referent for the research program: "Role of the protein kinase Snf1/AMPK in the regulation of glucose and amino acid metabolism in the yeast *Saccharomyces cerevisiae*" carried out by Dr. Andrea Castoldi, scholarship winner, project title: (MIUR SysBioNet project).

-2015-2019

Scientific referent for the research program: "Investigating the role of the energy sensor Snf1/AMPK in the control of cellular metabolism: from yeast studies to human colon cancer" carried out by Dr. Farida Tripodi, winner of the type A research grant issued from the University of Milano Bicocca.

-2017-2018

Scientific referent for the research program: "Study of the effect of extracts of African plants (NUS, Neglected Underutilized Species) on the metabolism of amino acids in the yeast *Saccharomyces cerevisiae*" carried out by Dr. Linda Lombardi, scholarship winner (MIUR SASS project).

-2020-today

Scientific referent for the research grant: "Dissecting serine metabolism in the brain" assigned to Dr. Beatrice Badone on the PRIN 2017 project (2017H4J3AS\_004, ERC LS1 Sector (CUP: H45J19000470006)).

### **FUNDINGS**

-2002-2004: PRIN-2002-Italian Government, as participating in the research program.

-2006-2008: PRIN-2006-Italian Government, as participating in the research program.

-2008-2013: UNICELLSYS 12-4-160 (2008-2013, <http://www.unicellsys.eu/>), EU-funded Coordination Action Yeast Systems Biology Network (YSBN, <http://www.ybsn.eu/>), as coordinator

of a sub-unit in the research program.

-2008-present: Principal investigator of Funding for the ATE University Fund, University Milano-Bicocca (Fondi Agevolazione Ricerca, FAR-Italian Government).

2013-2017: Principal investigator of the yeast research unit, MIUR SysBioNet, Italian Roadmap for European Strategy Forum on Research Infrastructures (ESFRI), ([www.sysbio.it](http://www.sysbio.it)).

-2016: Principal investigator of MIUR financing for basic research activities.

-2017-present: Scientific referent of metabolism unit within the MIUR project, coordinator Prof. Massimo Labra, title of the project: "Food Systems and Sustainable Development, creating synergies between international and African research and processes "(SASS, CUP: H42F16002450001).

-2019-2021: Scientific referent of the research unit of Milano-Bicocca University within the PRIN 2017 project (2017H4J3AS\_004, ERC LS1 sector, coordinator Prof. Loredano Pollegioni), title of the project: "Dissecting serin metabolism in the brain"(CUP: H45J19000470006).

### **ORAL PRESENTATIONS AT NATIONAL AND INTERNATIONAL CONFERENCES (FROM 2010)**

-September 2010: 6<sup>th</sup> International Conference on Protein Kinase CK2. "CK2 is modulated by nutritional conditions in budding yeast" (Session E: CK2 in yeasts, plants and non-vertebrate animals), University of Colonia, Germany.

-March 2013: Final conference of the European-funded Coordination Action Yeast Systems Biology Network UNICELLSYS. "Protein kinase Snf1/AMPK: a new regulator of G1/S transition in *Saccharomyces cerevisiae*", Innsbruck, Austria.

-September 2015: 27<sup>th</sup> International Conference on Yeast Genetics and Molecular Biology. "Glucose and amino acids addiction is a typical hallmark of Snf1/AMPK deficient cells" (W4: Growth Control and Metabolism), Levico Terme, Trento, Italy.

-September 2015: 58<sup>th</sup> National Meeting of the Italian Society of Biochemistry and Molecular Biology. "Glucose and Amino Acids Addiction Is a Typical Hallmark of Snf1/AMPK-Deficient Cells" (Symposium: Metabolism and Computational Biology), Urbino, Italy.

-September 2016: XIV FISV Congress (Italian Federation of Life Sciences), "Methionine metabolism imbalance in AMPK-deficient yeast models" (Session: Nutrition Biochemistry). Università La Sapienza, Roma.

-October 2016: invited at the Institute National des Sciences Appliquées by Prof. Jean Marie Francois. "Snf1/AMPK in budding yeast: not only a guardian of energy homeostasis in nutritional deprivation", Toulouse, France.

-April 2017: Workshop of the SIB group Computational and Systems Biology, "Proteomics and integrative omic approaches for understanding the control of energy homeostasis". Bologna, Italy.

-May 2017: 12<sup>th</sup> International Meeting on Yeast Apoptosis. "Snf1/AMPK regulates metabolism and autophagy in a methionine-dependent manner" (Session 5: Autophagy/Mitophagy), Bari, Italy.

-June 2019: 1<sup>st</sup> International Conference on Neuroprotection by Drugs, Nutraceuticals and Physical Activity, "Neuroprotective Properties of Standardized Extracts from *Vigna unguiculata* in yeast models of neurodegeneration" (Session: Neuroprotection by Nutraceuticals), Rimini, Italy.

### **NATIONAL AND INTERNATIONAL COLLABORATIONS**

-Dr. Luigi Russo, Institute of Food Sciences, National Research Council, CNR, Avellino, Italy.

-Dr. Stefania Sarno Department of Biomedical Sciences, University of Padova, Italy.

-Dr. Roberto Pagliarin, Dipartimento di Chimica Organica e Industriale, Università di Milano.

-Dr. Elia Di Schiavi, Institute of Biosciences and BioResources, CNR, Napoli, Italy.

-Prof. Rosa Maria Moresco, PET and Nuclear Medicine Unit, San Raffaele Scientific Institute, Milan, Italy.

-Prof. Oriano Marin, Department of Biomedical Sciences, University of Padova, Padova, Italy.

- Prof. Gabriella Tedeschi, Department of Veterinary Medicine, University of Milano, Italy.
- Prof. Cristina Angeloni, School of Pharmacy, University of Camerino, Italy.
- Prof. Monica Bucciantini, Department of Experimental and Clinical Biomedical Sciences, University of Firenze, Italy.
- Prof. Loredano Pollegioni, Università degli Studi INSUBRIA Varese-Como.
- Dr. Milo Frattini, Institute of Pathology, Locarno, Switzerland.
- Prof. Jens Nielsen, Department of Chemical and Biological Engineering, Chalmers University of Technology, Gothenburg, Sweden.
- Prof. Johan Thevelein, Laboratory of Molecular Cell Biology, Institute of Botany and Microbiology, KU Leuven, Belgium.
- Prof. Leah Cowen, Department of Molecular Genetics, University of Toronto, Toronto, Canada.
- Prof. Claudio De Virgilio, Department of Biology, University of Fribourg, Fribourg, Switzerland.

## PUBLICATIONS

ORCID: 0000-0001-5898-5883

Scopus H-index: 20

Google Scholar H-index: 22

Google Scholar i10-index: 32

1. Tripodi F, Lombardi L, Guzzetti L, Panzeri D, Riccardo Milanesi R, Leri M, Bucciantini M, Angeloni C, Beghelli D, Hrelia S, Onorato G, Di Schiavi E, Falletta E, Nonnis S, Tedeschi G, Labra M, Coccetti P\*. Protective effect of Vigna unguiculata extract against aging and neurodegeneration. (2020) Aging (Albany NY). 12(19):19785-19908 doi: 10.18632/aging.104069.
2. Milanesi R, Coccetti P, Tripodi F. The Regulatory Role of Key Metabolites in the Control of Cell Signaling. (2020) Biomolecules 10(6): 862 <https://doi.org/10.3390/biom10060862>.
3. Conti M.V, Campanaro A, **Coccetti P**, De Giuseppe R, Galimberti A, Labra M, Cena H. The potential role of neglected and underutilized plant species in improving women's empowerment and nutrition in areas of sub-Saharan Africa (2019) Nutrition Reviews, nuz038, doi.org/10.1093/nutrit/nuz038.
4. **Coccetti P\***, Nicastro R, Tripodi F. Conventional and emerging roles of the energy sensor Snf1/AMPK in *Saccharomyces cerevisiae*. (2018) Microb Cell. 5(11):482-494. doi: 10.15698/mic2018.11.655.
5. Tripodi F, Castoldi A, Nicastro R, Reghellin V, Lombardi L, Airoidi C, Falletta E, Maffioli E, Scarzia P, Palmieri L, Alberghina L, Agrimi G, Tedeschi G, **Coccetti P\***. Methionine supplementation stimulates mitochondrial respiration. (2018) Biochim Biophys Acta Mol Cell Res. 1865(12):1901-1913. doi:10.1016/j.bbamcr.2018.09.007.
6. Tripodi F, Dapiaggi F, Orsini F, Pagliarin R, Sello G, **Coccetti P\***. Synthesis and biological evaluation of new 3-amino-2-azetidinone derivatives as anti-colorectal cancer agents. (2018) Medchemcomm. 9(5):843-852. doi: 10.1039/c8md00147b.
7. Tripodi F, Frascini R, Zocchi M, Reghellin V, **Coccetti P\***. Snf1/AMPK is involved in the mitotic spindle alignment in *Saccharomyces cerevisiae*. (2018) Sci Rep. 8(1):5853. doi: 10.1038/s41598-018-24252-y.
8. Khandelwal NK, Chauhan N, Sarkar P, Esquivel BD, **Coccetti P**, Singh A, Coste AT, Gupta M, Sanglard D, White TC, Chauvel M, d'Enfert C, Chattopadhyay A, Gaur NA, Mondal AK, Prasad R. Azole resistance in a *Candida albicans* mutant lacking the ABC transporter CDR6/ROA1 depends on TOR signaling (2018) J Biol Chem. 293(2):412-432. doi: 10.1074/jbc.M117.807032.
9. Busti S, Mapelli V, Tripodi F, Sanvito R, Magni F, **Coccetti P**, Nielsen J, Alberghina L Vanoni M. Respiratory metabolism and calorie restriction relieve persistent endoplasmic reticulum stress induced by calcium shortage in yeast (2016) Sci Rep. 6:27942 doi:10.1038/srep27942.
10. Tanvi Shekhar-Guturja, G. M. Kamal B. Gunaherath, E. M. Kithsiri Wijeratne, Jean-Philippe Lambert, Anna F. Averette, Soo Chan Lee, Taeyup Kim, Yong-Sun Bahn, Farida Tripodi, Ron Ammar, Katja Döhl, Karolina Niewola-Staszewska, Lutz Schmitt, Robbie J. Loewith, Frederick P. Roth, Dominique Sanglard, David Andes, Corey Nislow, **Coccetti P**, Anne-Claude Gingras, Joseph Heitman, A. A. Leslie Gunatilaka, and Leah E. Cowen. Dual Action Small Molecule Potentiates Antifungal Efficacy, Blocks the Evolution of Drug Resistance, and Renders Resistant Pathogens Responsive to Therapy via Modulation of Multidrug Efflux and TOR Signaling. (2016) Nat Chem Biol 12(10):867-75.

11. Nicastro R, Tripodi F, Gaggini M, Castoldi A, Reghellin V, Nonnis S, Tedeschi G, **Cocchetti P\***. Snf1 Phosphorylates Adenylate Cyclase and Negatively Regulates Protein Kinase A-dependent Transcription in *Saccharomyces cerevisiae* (2015) *J Biol Chem.* 290(41):24715-26
12. Nicastro R, Tripodi F, Guzzi C, Reghellin V, Khoomrung S, Capusoni C, Compagno C, Airoidi C, Nielsen J, Alberghina L, **Cocchetti P\***. Enhanced amino acid utilization sustains growth of cells lacking Snf1/AMPK (2015) *Biochimica et Biophysica Acta Molecular Cell Research* 1853: 1615–1625.
13. Tripodi F, Nicastro R, Reghellin V, **Cocchetti P**. Post-translational modifications on yeast carbon metabolism: Regulatory mechanisms beyond transcriptional control (2015) *Biochimica et Biophysica Acta General Subject* 1850: 620–627.
14. Airoidi C, Tripodi F, Guzzi C, Nicastro R, **Cocchetti P\***. NMR analysis for yeast metabolomics: a rapid method for sample preparation and data analysis (2015) *Mol. Biosyst.* 11: 379-383.
15. Valtorta S, Nicolini G, Tripodi F, Meregalli C, Cavaletti G, Avezza F, Crippa L, Bertoli G, Sanvito F, Fusi P, Pagliarin R, Orsini F, Moresco RM, **Cocchetti P\***. A novel AMPK activator reduces glucose uptake and inhibits tumor progression in a mouse xenograft model of colorectal cancer (2014) *Invest New Drugs.* 32(6): 1123-33. DOI 10.1007/s10637-014-0148-8.
16. Busnelli S, Tripodi F, Nicastro R, Cirulli C, Tedeschi G, Pagliarin R, Alberghina L **Cocchetti P\***. Snf1/AMPK promotes SBF and MBF-dependent transcription in budding yeast (2013) *Biochimica et Biophysica Acta Molecular Cell Research* 1833(12): 3254-3264.
17. Tripodi F, Nicastro R, Busnelli S, Cirulli C, Maffioli E, Tedeschi G, Alberghina L, **Cocchetti P\***. Protein Kinase CK2 holoenzyme promotes Start-Specific transcription in *Saccharomyces cerevisiae*. (2013) *Eukaryot Cell.* 12(9): 1271-80.
18. Papaleo E, Casiraghi N, Arrigoni A, Vanoni M, **Cocchetti P**, De Gioia L. Loop 7 of E2 enzymes: an ancestral common motif for regulation and specificity of ubiquitin-conjugating activity in the ubiquitination pathway (2012) *PLoS One* 7(7): e40786.
19. Cirulli C, **Cocchetti P**, Alberghina L, Tripodi F. A surface activated chemical ionization approach allows quantitative phosphorylation analysis of the cyclin dependent kinase inhibitor Sic1 phosphorylated on Ser201 (2012) *Rapid Commun. Mass Spectrom.* (26): 1527-1532.
20. Tripodi F, Pagliarin R, Fumagalli G, Bigi A, Fusi P, Orsini F, Frattini M, **Cocchetti P\***. Synthesis and biological evaluation of 1,4-diaryl-2-azetidinones as specific anticancer agents: activation of adenosine monophosphate-activated protein kinase and induction of apoptosis (2012) *J. Med. Chem.* doi: 10.1021/jm201344a (55): 2112–2124.
21. Alberghina L, Mavelli G, Drovandi G, Palombo P, Pessina S, Tripodi F, **Cocchetti P**, Vanoni M. Growth and cell cycle in *Saccharomyces cerevisiae*: basic regulatory design and protein-protein interaction network (2012) *Biotechnology Advances* (1):52-72.
22. Papaleo E, Ranzani E, Tripodi F, Vitriolo A, Cirulli C, Fantucci P, Alberghina L, Vanoni M, De Gioia L, **Cocchetti P\*** An acidic loop and cognate phosphorylation sites define a molecular switch that modulates ubiquitin-charging activity in Cdc34-like enzymes (2011) *PLoS Comput Biol* 7(5): e1002056.
23. Tripodi F, Cirulli C, Reghellin V, Brambilla L, Marin O, **Cocchetti P\*** Nutritional modulation of CK2 in *Saccharomyces cerevisiae*: regulating the activity of a constitutive enzyme (2011) *Mol. Cell Biochem.* 356(1-2):269-75.
24. Tripodi F, Cirulli C, Reghellin V, Marin O, Brambilla L, Schiappelli MP, Porro D, Vanoni M, Alberghina L, **Cocchetti P\***. CK2 activity is modulated by growth rate in *Saccharomyces cerevisiae*. (2010) *Biochem Biophys Res Commun.* 398(1): 44-50.
25. Busti S, **Cocchetti P**, Alberghina L, Vanoni M. Glucose Signaling-Mediated Coordination of Cell Growth and Cell Cycle in *Saccharomyces cerevisiae* (2010) *Sensors* 10, 6195-6240; doi:10.3390/s100606195.

26. Pastori V, Sangalli E, **Cocchetti P**, Pozzi C, Nonnis S, Tedeschi G, Fusi P. CK2 and GSK3 phosphorylation on S29 controls wild-type ATXN3 nuclear uptake. (2010) *Biochim Biophys Acta. Molecular Basis of Disease* 1802(7-8): 583-592.
27. **Cocchetti P\***, Montano G, Lombardo A, Tripodi F, Orsini F, Pagliarin R. Synthesis and biological evaluation of combretastatin analogs as cell cycle inhibitors of the G1 to S transition in *Saccharomyces cerevisiae*. (2010) *Bioorg Med Chem Lett.* 20(9): 2780-2784.
28. Pessina S, Tsiarentsyeva V, Busnelli S, Vanoni M, Alberghina L, **Cocchetti P**. Snf1/AMPK promotes S phase entrance by controlling *CLB5* transcription in budding yeast. (2010) *Cell Cycle* 9(11): 2189-2200.
29. Alberghina L, **Cocchetti P**, Orlandi I. Systems biology of the cell cycle of *Saccharomyces cerevisiae*: From network mining to system-level properties (2009) *Biotechnology Advances* 27: 960-978.
30. **Cocchetti P\***, Tripodi F, Tedeschi G, Nonnis S, Marin O, Fantinato S, Cirulli C, Vanoni M, Alberghina L. The CK2 phosphorylation of catalytic domain of Cdc34 modulates its activity at the G1 to S transition in *Saccharomyces cerevisiae* (2008) *Cell Cycle* 7(10): 1391-1401.
31. Tripodi F, Zinzalla V, Vanoni M, Alberghina L, **Cocchetti P.\*** In CK2 inactivated cells the cyclin dependent kinase inhibitor Sic1 is involved in cell-cycle arrest before the onset of S phase (2007) *Biochem. Biophys. Res. Commun* 359: 921-927.
32. **Cocchetti P\***, Zinzalla V, Tedeschi G, Russo GL, Marin O, Pinna L, Vanoni M, Alberghina L. Sic1 is phosphorylated by CK2 on Ser201 in budding yeast cells (2006) *Biochem. Biophys. Res. Commun.* 346: 786-793.
33. Barberis M, De Gioia L, Ruzzene M., Sarno S, **Cocchetti P**, Fantucci P, Vanoni M., Alberghina L. The yeast cyclin-dependent kinase inhibitor Sic1 shares a functionally and structurally homologous domain with mammalian p27Kip1 (2005) *Biochem. J.* 387: 639-64.
34. **Cocchetti P**, Rossi R., Sternieri F, Porro D., Russo GL, di Fonzo A., Magni F., Vanoni M., Alberghina L. Mutations of the CK2 phosphorylation site of Sic1 affect cell size and S-Cdk kinase activity in *Saccharomyces cerevisiae* (2004) *Mol. Microbiol.* 51(2): 447-460.
35. Rudoni S, Colombo S, **Cocchetti P**, Martegani E. Role of the guanine nucleotides in the regulation of the Ras/cAMP pathway in *Saccharomyces cerevisiae*. (2001) *Biochim. Biophys. Acta Molecular Cell Research* 1538: 181-189.
36. Tisi R, **Cocchetti P**, Banfi S, Martegani E. 3-Nitrocoumarin is an efficient inhibitor of budding yeast phospholipase-C (2001) *Cell Biochem Funct.* 19(4):229-35.
37. Rudoni S, Mauri I, Ceriani M, **Cocchetti P**, Martegani E. The overexpression of the CDC25 gene of *Saccharomyces cerevisiae* causes a derepression of GAL system and an increase of GAL4 transcription. (2000) *Int. J. Bioch. Cell. Biol.* 32: 215-224.
38. Russo GL, Van de Bos C, Sutton A, **Cocchetti P**, Baroni D, Alberghina L., Marshak C. Phosphorylation of CDC28 and regulation of cell size by protein kinase CK2 in *Saccharomyces cerevisiae*. (2000) *Biochem. J.* 351: 143-150.
39. **Cocchetti P**, Monzani E, Alberghina L, Casella L, Martegani E. Analysis of the secondary structure of the catalytic domain of mouse Ras exchange factor CDC25Mm. (1998) *Biochim. Biophys. Acta Proteins and Proteomics* 1383: 292-300.
40. **Cocchetti P**, Martegani E, Teixeira L, Brandao R, De Miranda C, Thevelein J.M. The PLC1 encoded phospholipase C in the yeast *Saccharomyces cerevisiae* is essential for glucose-induced phosphatidylinositol turnover and activation of plasma membrane H<sup>+</sup>-ATPase. (1998) *Biochim. Biophys. Acta Molecular Cell Research* 1405: 147-154.
41. **Cocchetti P**, Mauri I, Alberghina L, Martegani E, Parmeggiani A. The minimal active domain of the mouse ras exchange factor CDC25Mm. (1995) *Biochem. Biophys. Res. Commun.* 206: 253-259.



42. Van Aelst L, Hohman S, Bulaya B, De Koning W, Sierkstra L, Neves MJ, Luyten K, Alijo R, Ramos J, **Cocchetti P**, Martegani E, De Magalhaes-Rocha NM, Brandao R, Van Dijck P, Vanhalewyn M, Durnez P, Jans A, Thevelein J. Molecular cloning of a gene involved in glucose sensing in the yeast *Saccharomyces cerevisiae*. (1993) Mol. Microbiol. 8: 927-943.
43. Martegani E, Vanoni M, Zippel R, **Cocchetti P**, Brambilla R, Ferrari C, Sturani E, Alberghina L. Cloning by functional complementation of a mouse cDNA encoding a homologue of CDC25, a *Saccharomyces cerevisiae* Ras activator. (1992) EMBO J. 11: 2151-2157.
44. Frascotti G, **Cocchetti P**, Vanoni M, Alberghina L, Martegani E. The overexpression of the 3' - terminal region of the CDC25 gene of *Saccharomyces cerevisiae* causes growth inhibition and alteration of purine nucleotide pools. (1991) Biochim. Biophys. Acta Gene Regulatory Mechanisms 1089: 206-212.

\*Corresponding Author

#### **PATENT**

Pagliarin R, Orsini F, Montano G, Tripodi F, Cocchetti P, Fusi P. 1,4-Diaryl-2-Azetidinones with antitumoral activity. 2012 Patent: PCT/EP2012/064825, 27/7/20.

Milano, 23 ottobre 2020

Paola Cocchetti

