

CINZIA DELLA GIOVAMPAOLA

Researcher (SSD BIO/06) Department of Life Sciences

University of Siena

via Aldo Moro, 2 - 53100 Siena

Email : cinzia.dellagiovampaola@unisi.it

Office : +39 (0)577 232372

Lab. : +39 (0)577 232390

CURRICULUM VITAE ET STUDIORUM

Born in Siena, April 10, 1972.

1991 Graduated at Scientific Lyceum A. da Sangallo of Montepulciano (SI) with 60/60 marks.

1997 Degree in Biological Sciences with full marks (110/110 *cum laude*) at the University of Siena. Thesis title: "Localization and characterization of gp20, a glycoprotein of human sperm surface".

1998 Biologist qualification with full marks (150/150).

1998-1999 Research assistant at the laboratory of Cell Biology and Glycobiology of University of Siena. Research focus: "Molecular characterization of a 20 kDa glycoprotein present on the surface of human sperm after capacitation" and "Molecular characterization of a human sperm membrane glycoprotein homologous to lymphocyte antigen CD52".

1999-2002 Ph.D. studentship in Molecular Medicine at University of Siena.

2002 Ph.D. in Molecular Medicine. Thesis title: "Molecular dissection of immune and reproductive systems antigen CD52 by polyclonal and monoclonal antibodies".

2002-2004 Primary school teacher.

2005 Researcher of Comparative Anatomy and Cytology at University of Siena.

TEACHING ACTIVITIES

CYTOLOGY AND HISTOLOGY (Biological Sciences - first cycle degree).

CELLULAR BIOTECHNOLOGY (Integrated course in Reproductive Biology and Cellular Biotechnology - Biology - second cycle degree).

Other courses

GLYCOBIOLOGY OF CELLULAR INTERACTIONS (Biology - second cycle degree) (AY 2017-2018).

CELLULAR BIOTECHNOLOGY (Molecular and Cellular Biology - second cycle degree) (2009-2016).

ANIMAL CELL BIOLOGY (Biological Sciences - first cycle degree) (2006-2011).

ANIMAL BIOTECHNOLOGY (Biotechnologies - first cycle degree) (2005-2008).

CELLULAR BIOLOGY AND BIOCHEMISTRY (Analysis Technologies of Ecotoxicological Impacts - second cycle degree) (AY 2008-2009).

She has been supervisor of several theses of Biological Sciences, Biotechnology (First cycle degree), Molecular and Cellular Biology, Biology (Second cycle degree).

MANAGEMENT ACTIVITIES

- Member of commission for Biological Science (first cycle degree) and for Biology (second cycle degree)
- Member of exam commission for the courses of Cytology and Histology (Biological Science), Glycobiology of Cellular Interactions, Reproduction Physiology and Cellular Biotechnology (Biology).
- Member of Teaching Committee for Molecular and Cellular Biology (2013-2016) and for Biology (2016-2018).

RESEARCH INTERESTS

She worked for a long time on glycobiology of fertilization and then she dedicated to the study of glycobiological topics that concern other cellular models. Her research activity is now focused on the comparative analysis of the organelles and the cytoskeleton organization in cultured normal and cancer cell lines. She is particularly interested in fucose-containing glycans which have a determinant role in several physiological processes such as leukocyte-endothelial adhesion, fertilization and ontogenesis, and in the cancer cell biology.

PRINCIPAL RESEARCH METHODOLOGIES

- Cell cultures (normal and cancer cell lines).
- Optical and confocal microscopy.
- Biochemistry (SDS-PAGE, immunoblotting, lectin-blotting, chromatographic methods).

CONGRESSES

- Biotech-2018 - International Biotechnology Conference (Roma, April 25-27, 2018)
Poster "A novel alpha (1,2)-fucosylation and actin dependent uptake vehiculates doxorubicin-loaded liposomes into highly proliferative cells".
- ItPA (Italian Proteomics Association), XI Annual Conference (Perugia, March 16-19, 2016) Poster: "N-glycosylation pattern changes for brain NPP-5 in Mecp2-mutant murine models of Rett syndrome".
- 4th European Congress on Rett Syndrome (Roma, October 30 – November 1, 2015)
Poster: "N-glycosylation pattern changes for brain NPP-5 in Mecp2-mutant murine models of Rett syndrome".
- 55° Convegno GEI (Italian Embriological Group) (Siena, September 28-30, 2009).
- Meeting "Cancer Therapeutics: The Road Ahead" (Capri, October 8-10, 2007).
Poster: "Immunoglobulins against Lewis-containing O-glycans strongly interact with nucleolin glycoforms located in the nucleus and in the plasma membrane of highly proliferating cells and interfere with proliferation".
- ABCD Congress (Capri, May 11-13, 2002). Congress communication:
"Immunoproteomics of gp20-CD52 antigen".
- PBI International seminar "Cell cultures: basic methods and applications" (Milano, March 26-27, 2002).

- ABCD Congress (Capri, May 11-13, 2001). Congress communication: "Molecular dissection of the immune and reproductive systems antigen CD52"
- 1st Congress of SIERR (Embryology, Reproduction and Research Italian Society) (Roma, December 2-3, 2000).
- ABCD Congress (Cellular and Differentiation Biology Association) (Capri, May 6-7, 2000).
- 1st European Congress of Andrology (L'Aquila, March 24-27, 2000). Poster: "Differential sialylation of the epididymal human antigen CD52".
- Biochemical Italian Congress (Perugia, April 23-24, 1999). Congress communication: "Biochemical characterization of the human sperm antigen gp20, homologue of leukocyte CD52".

PUBLICATIONS

Original publications in international scientific journals.

[https://usiena-air.unisi.it/browse?type=author&idab=6543&sort by=2&order=DESC](https://usiena-air.unisi.it/browse?type=author&idab=6543&sort%20by=2&order=DESC)

- Nolfi D, Capone A, Rosati F, Della Giovampaola C The alpha-1,2 fucosylated tubule system of DU145 prostate cancer cells is derived from a partially fragmented Golgi complex and its formation is actin-dependent. *Exp Cell Res* 396(2) (2020).
- Della Giovampaola C, Capone A, Ermini L, Lupetti P, Vannuccini E, Finetti F, Donnini S, Ziche M, Magnani A, Leone G, Rossi C, Rosati F, Bonechi C Formulation of liposomes functionalized with the *Lotus* lectin and effective in targeting highly proliferative cells. *Biochim Biophys Acta* 1861 (4), 860-870 (2017).
- Della Giovampaola C, Capone A, Nolfi D, Rosati F. Alpha (1,2) Fucosylated glycoepitopes from invertebrates to humans *Research & Reviews: Journal of Zoological Sciences* 4 (3): 42-49 (2016).
- Cortelazzo A, De Felice C, Guerranti R, Signorini C, Leoncini S, Pecorelli A, Scalabrì F, Madonna M, Filosa S, Della Giovampaola C, Capone A, Durand T, Mirasole C, Zolla L, Valacchi G, Ciccoli L, Guy J, D'Esposito M, Hayek J. Abnormal N-glycosylation pattern for brain nucleotide pyrophosphatase-5 (NPP-5) in Mecp2-mutant murine models of Rett syndrome. *Neurosci Res* 105, 28-34 (2016).

- Aldi S, Capone A, Della Giovampaola C, Ermini L, Pianigiani E, Mariotti G, Rosati F. Identification of a novel, alpha2-fucosylation-dependent uptake system in highly proliferative cells. *Tissue Cell* 47(1), 33-38 (2015).
- Cortelazzo A, De Felice C, Pecorelli A, Belmonte G, Signorini C, Leoncini S, Zollo G, Capone A, Della Giovampaola C, Sticozzi C, Valacchi G, Ciccoli L, Guerranti R, Hayek J. Beta-actin deficiency with oxidative posttranslational modifications in Rett syndrome erythrocytes: insights into an altered cytoskeletal organization. *PLoS One* 9(3): e93181 (2014).
- Pasqui D, Golini L, Della Giovampaola C, Atrei A, Barbucci R. Chemical and biological properties of polysaccharides-coated titania nanoparticles: the key role of proteins. *Biomacromolecules* 12, 1243-1249 (2011).
- Aldi S, Della Giovampaola C, Focarelli R, Armini A, Ziche M, Finetti F, Rosati F. A fucose-containing O-glycoepitope on bovine and human nucleolin. *Glycobiology* 19, 337-343 (2009).
- Flori F, Ermini L, La Sala GB, Nicoli A, Capone A, Focarelli R, Rosati F, Della Giovampaola C. The GPI-anchored CD52 antigen of the sperm surface interacts with semenogelin and participates in clot formation and liquefaction of human semen. *Mol Reprod Dev* 75, 326-335 (2008).
- Ognibene M, Della Giovampaola C, Trielli F, Focarelli R, Rosati F, Delmonte Corrado MU. Identification and characterization of a 38kDa glycoprotein functionally associated with mating activity of *Paramecium primaurelia*. *Eur J Protistol* 44, 81-90 (2008).
- Rosati F, Focarelli R, Capone A, Della Giovampaola C, Flori F, Ermini L. CD52, an intriguing antigen of the human sperm surface. *Trends Reprod Biol* 2, 65-70 (2006).
- Flori F, Della Giovampaola C, Focarelli R, Secciani F, La Sala GB, Nicoli A, Hale G, Rosati F. Epitope analysis of immunoglobulins against gp20, a GPI-anchored protein of the human sperm surface homologous to leukocyte antigen CD52. *Tissue Antigens* 66, 209-216 (2005).
- Giuliani V, Pandolfi C, Santucci R, Pelliccione F, Macerola B, Focarelli R, Rosati F, Della Giovampaola C, Francavilla F, Francavilla S. Expression of gp20, a human sperm

antigen of epididymal origin, is reduced in spermatozoa from subfertile men. *Mol Reprod Dev* 69, 235-240 (2004).

- Delle Monache S, Flori F, Della Giovampaola C, Capone A, La Sala GB, Rosati F, Colonna R, Tatone C, Focarelli R. Gp273 the ligand molecule for sperm-egg interaction in the bivalve mollusc *Unio elongatulus* binds to and induces acrosome reaction in human spermatozoa through a protein kinase C-dependent pathway. *Biol Reprod* 69, 1779-1784 (2003).
- Baldi F, Pepi M, Capone A, Della Giovampaola C, Milanese C, Fanfani R, Focarelli R. Envelope glycosylation determined by lectins in microscopy sections of *Acinetobacter venetianus* induced by diesel fuel. *Res Microbiol* 154, 417-424 (2003).
- Della Giovampaola C, Flori F, Sabatini L, Incerti L, La Sala GB, Rosati F, Focarelli R. The surface of human sperm bears three differently charged CD52 forms two of which remain stably bound to sperm after capacitation. *Mol Reprod Dev* 60, 89-96 (2001).
- Rosati F, Capone A, Della Giovampaola C, Brettoni C, Focarelli R. Sperm-egg interaction at fertilization: glycans as recognition signals. *Int J Dev Biol* 44, 609-618 (2000).
- Focarelli R, Della Giovampaola C, Seraglia R, Brettoni C, Sabatini L, Pescaglini M, Rosati F. Biochemical and MALDI analysis of the human sperm antigen gp20, homologue of leukocyte CD52. *Biochem Biophys Res Comm* 258, 639-643 (1999).
- Focarelli R, Francavilla S, Francavilla F, Della Giovampaola C, Santucci A, Rosati F. A sialoglycoprotein, gp20, of the human capacitated sperm surface is a homologue of the leukocyte CD52: analysis of the effect of anti-CD52 monoclonal antibody (CAMPATH-1) on capacitated spermatozoa. *Mol Hum Reprod* 5, 46-51 (1999).
- Focarelli R, Giuffrida A, Capparelli S, Scibona M, Menchini Fabris F, Francavilla F, Francavilla S, Della Giovampaola C, Rosati F. Specific localization in the equatorial region of gp20, a 20 kDa sialylglycoprotein of the capacitated human spermatozoon acquired during epididymal transit which is necessary to penetrate zona-free hamster eggs. *Mol Hum Reprod* 4, 101-107 (1998).

SCIENTIFIC BOOK

Bacci S, Canapa A, Cimini AM, Cioni C, Colasanti M, Colombo R, Della Giovampaola C, Deri P, Ferri D, Gornati R, Liquori GE, Luparello C, Nano R, Odierna G, Olmo E, Ottaviani E, Panzica GC,

Rosati F, Rossi AR, Sciola GL, Sinatra F. *Biologia - Cellula e tessuti* (2nd edition, June 2014)
edited by R. Olmo and E. Colombo - Edi. Ermes s.r.l., Milano.