



**Rosalba Gornati**

 UNIVERSITY OF INSUBRIA



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## Contact data

### Assistant Professor

Department of Biotechnology and Molecular Science

Via J.H. Dunant, 3 21100 Varese I

Tel: +390332421444

Fax: +390332421500

E-mail: [rosalba.gornati@uninsubria.it](mailto:rosalba.gornati@uninsubria.it)

## Biography

July 1984: Bachelor Degree in Biological-medical Laboratory at the University of Milan. Title of the thesis: "New method to diagnosis sialoglycoconjugate diseases".

September 1984 – September 1986: scholarship at the General Physiology and Biochemistry Institute, University of Milan..

October 1986 – March 1989: Junior laboratory technician at the General Physiology and Biochemistry Institute, University of Milan.

March 1990: Degree in Pharmacy at the University of Milan. Title of the thesis: "New method for serum gangliosidic sialic acid determination".

1991: Teaching diploma for Nutrition Science.

March 1993 – September 1993 than October 1995 –November 1995  
Visiting Researcher at the Department of Chemistry and Biochemistry, University of Notre Dame, Notre Dame (Indiana, USA).

January 1996–December 1998 Senior laboratory technician at the General Physiology and Biochemistry Institute, University of Milan.

January 1999 – February 2002: Senior laboratory technician at the Department of Structural and Functional Biology, University of Insubria (VA, Italy).

March 2002 to Present: Research Associate at the Department of Biotechnology and Molecular Science, University of Insubria (VA, Italy).

## Research interests

STUDY ON MEMBRANE LIPID EXPRESSION as diagnostic method in sphingolipidosis and neoplasias, in this case by the search of "potential" biomarkers.

EVALUATION OF LIPID PATTERN IN XENOPUS LAEVIS EMBRYOS DURING DEVELOPMENT FETAX (Frog Embryo Teratogenesis Assay in Xenopus) has been widely used to assay toxic and teratogenic effects of various compounds; using Xenopus as a biological model it is possible to analyse a wide number of embryo pools and this makes the

test statistically powerful. Morphological analysis alone is inadequate to understand the molecular mechanisms of embryo toxicity and teratogenesis, but it is the base to apply molecular techniques. Furthermore biochemical studies concerning glycolipid composition as also been performed.

GENETICAL AND EVOLUTIONARY STUDIES ON ALLANTOICASE an enzyme involved in purine catabolism that has been lost during vertebrate evolution.

SEARCH OF MOLECULAR BIOMARKERS in *Dicentrarchus labrax* by differential display to find mRNA differentially expressed in two population or before and after a treatment. With the aim to reduce the gap of genomic resources of commercial species classical, normalized and subtraction libraries have been made, screened and the sequences deposited in GenBank.

EXPRESSION IALURONIC ACID SYNTHASE 3 DURING *Xenopus laevis* DEVELOPMENT and its genomic organization.

## Teaching experience and appointments

2001/2002 CELLULAR BIOTECHNOLOGY University of Insubria, School of Sciences in Varese

2001/2002 2002/2003, 2003/2004, 2004/2005, 2005/2006 CITOLOGY and HISTOLOGY University of Insubria, School of Sciences in Varese

2002/2003, 2003/2004, 2004/2005, 2005/2006 LIFE SCIENCE University of Insubria, Faculty of Science.

## Representative publications

1. B. Berra, S. Rapelli, M. Brivio, R. Gornati, M.F. Omodeo Sale`. Modification of glycoconjugate content and distribution in human meningiomas. In: Clin Chem Enzymol Commun. (Melino G., Kemshead J.T., Knight R.A., Federici G., Guerrieri P., Schwab M. eds) Harwood Academic Publisher 2, 383-390 (1990).

2. R. Gornati, S. Rapelli, G. Montorfano, C. Cattaneo, B. Berra. A new procedure for gangliosidic N-acetylneuraminic acid analysis in serum. The International Journal of Biological Marker 6, 91-98 (1991).

3. G. Bernardini, R. Gornati, S. Rapelli, F. Rossi and B. Berra. Lipids *Xenopus laevis* spermatozoa. Development Growth & Differentiation 34 (3), 329-335 (1992).

4. B. Bembi, M. Comelli, B. Scaggiante, A. Pineschi, S. Rapelli, R. Gornati, G. Montorfano, B. Berra, E. Agosti and D. Romeo. Treatment of sphingomyelinase deficiency by repeated implantation of amniotic epithelial cells. American Journal of Medical Genetics 44, 527-533 (1992).

5. A.M. Rizzo, R. Gornati, C. Galli, G. Bernardini and B. Berra. Cholesterol, Triacylglycerol and Phospholipids Durind *Xenopus* Embryo Development. Cell Biology International, 18/11, 1085-1090 (1994).

6. B. Bembi, M. Zanatta, M. Carrozzi, F. Baralle, R. Gornati, B. Berra and E. Agosti. Enzyme replacement treatment in type 1 and 3

Gaucher's disease. *Lancet*, 344, 1679-1682 (1994).

7. R. Gornati, A.M. Rizzo, X.W. Tong, B. Berra and G. Bernardini. Glycolipid patterns during *Xenopus* embryo development. *Cell Biology International* 19/3, 183-189 (1995).

8. B. Berra, R. Gornati, S. Rapelli, R. Gatti, G.M.S. Mancini and B. Bembi. Infantile sialic acid storage disease: biochemical studies. *American J. of Medical Genetics* 58, 24-31 (1995).

9. A.M. Rizzo, R. Gornati, F. Rossi, G. Bernardini and B. Berra. Retinoic acid induces changes in *Xenopus* embryo glycolipid pattern. *Cell Biology International* 19/11, 895-901 (1995).

10. M.F. Omodeo-Sale', R. Gornati and P. Palestini. Ganglioside Long-Chain Base Composition of Rat Brain Subcellular Fractions after Chronic Ethanol Administration. *Alcohol* 13/3, 291-295 (1996).

11. G. Bernardini, A. M. Rizzo, R. Gornati, F. Rossi and B. Berra. Tissue and developmental specificity of a polysialo-ganglioside species in the amphibian *Xenopus*. *Cell Biol. Int.* 20/10, 667-672 (1996).

12. R. Gornati, S. Basu, G. Bernardini, A. M. Rizzo F. Rossi and B. Berra. Activities of glycolipid glycosyltransferases and sialidases during the early development of *Xenopus laevis*. *Molecular and Cellular Biochemistry* 166, 117-124 (1997).

13. R. Gornati, B. Bembi, X. Tong, R. Boscolo B. Berra. Total glycolipid content in serum and urine of patients with Gaucher's disease type 3 before and after enzyme replacement therapy. *CCA*, 271, 151-161 (1998).

14. A.M. Rizzo, R. Gornati, F. Rossi, G. Bernardini and B. Berra. Effect of maternal diet on the distribution of phospholipids and their fatty acid composition in *Xenopus laevis* embryos. *J. Nutritional Biochemistry*, 10, 44-48 (1999).

15. F. Rossi, R. Gornati, A.M. Rizzo, L. Venturini, G. Bernardini and B. Berra. Glycolipid glycosyltransferase activities during early development of *Xenopus*: effect of retinoic acid. *Cell Biology International* 23 n°2, 91-95 (1999).

16. C. Lindi, G. Montorfano, F. Rossi, R. Gornati and A.M. Rizzo. Effect of ethanol exposure on *Xenopus* embryo lipid composition. *Alcohol & alcoholism* 36(5), 388-392 (2001).

17. A.M. Rizzo, F. Rossi, A. Guerra, B. Berra, R. Gornati, G. Bernardini and S. Sonnino. Exogenous sphingosine enters *Xenopus laevis* embryos grown in petri dishes and it is metabolized. *Bioscience Report*, 21(6), 719-731 (2001).

18. R. Gornati, B. Berra, C. Martini, G. Montorfano, G. Ciana, P. Ferrari, M. Romano and B. Bembi. Glycolipid analysis of different tissues and cerebrospinal fluid in type 2 Gaucher disease. *J. of Inherited Metabolic Disease*, 25, 47-55 (2002).

19. D. Vigetti, L. Pollegioni, C. Monetti, M. Prati, G. Bernardini, R. Gornati\*. Property comparison of recombinant amphibian and mammalian allantoicases. *FEBS Letters*, 512, 323-328 (2002).
20. D. Vigetti, C. Monetti, M. Prati, R. Gornati and G. Bernardini. Genomic organization and chromosome localization of the murine and humane allantoicase gene. *Gene*, 289, 13-17 (2002).
21. C. Monetti, D. Vigetti, M. Prati, E. Sabbioni, G. Bernardini, R. Gornati\*. Gene expression in *Xenopus* embryos after methylmercury exposure: a search for molecular biomarkers. *Environmental Toxicology & Chemistry*, 21(12) 2731-2736 (2002).
22. R. Gornati, C. Monetti, D. Vigetti, S. Bosisio, S. Fortaner, E. Sabbioni, G. Bernardini and M. Prati. Arsenic toxicity and HSP70 expression in *Xenopus laevis* embryos. *ATLA*, 30, 597-603 (2002).
23. A.M. Rizzo, B. Berra, F. Rossi, A. Guerra, R. Gornati, G. Bernardini, T. Taki, T. Kasama, L. Mauri and S. Sonnino. Structure of the main ganglioside from the brain of *Xenopus laevis*. *Glycoconjugate J.* 19 (1), 53-57 (2002).
24. D. Vigetti, G. Binelli, C. Monetti, M. Prati, G. Bernardini, R. Gornati\*. Selective pressure on the allantoicase gene during vertebrate evolution. *J. of Molecular Evolution* 57, 650-658 (2003).
25. C. Monetti, G. Bernardini, D. Vigetti, M. Prati, S. Fortaner, E. Sabbioni, and R. Gornati\* Platinum toxicity and gene expression in *Xenopus* embryos: analysis by FETAX and differential display. *ATLA*, 31(4), 401-408. (2003).
26. D. Vigetti, M. Viola, R. Gornati, M. Ori, I. Nardi, A. Passi, G. De Luca, G. Bernardini. Molecular cloning, genomic organization and developmental expression of the *Xenopus laevis* hyaluronan synthase 3. *Matrix Biology*, 22/6 pp 511-517 (2003).
27. R. Gornati, G. Terova, D. Vigetti, M. Prati, M. Saroglia and G. Bernardini. Effects of population density on sea bass (*Dicentrarchus labrax*) gene expression. *Aquaculture* 230/1 pp 229-239 (2004).
28. R. Gornati\*, E. Papis, S. Rimoldi, G. Terova, M. Saroglia and G. Bernardini. Rearing density influences the expression of stress related genes in seabass (*Dicentrarchus labrax* L.). *Gene* 341, 111-118 (2004).
29. R. Gornati\*, Elena Papis, Simona Rimoldi, Valentina Chini, Genciana Terova, Mariangela Prati, Marco Saroglia, Giovanni Bernardini. Molecular markers for animal biotechnology: sea bass (*Dicentrarchus labrax*, L.) HMG-CoA reductase mRNA. *Gene* 344, 299-305 (2005).
30. R. Gornati, S. Gualdoni, R. Cavaliere, G. Terova, M. Saroglia and G. Bernardini. Molecular biology and fish welfare: a winning combination. *Aquaculture international* 13, 51-55 (2005).

31. G. Terova, R. Gornati, S. Rimoldi, G. Bernardini, M. Saroglia  
Quantification of a glucocorticoid receptor in sea bass (*Dicentrarchus labrax*, L.) reared at high stocking density. *Gene*

32. Valentina Chini, Simona Rimoldi, Genciana Terova, Marco Saroglia, Giovanni Bernardini, Rosalba Gornati\*. EST-based identification of genes expressed in the liver of adult seabass (*Dicentrarchus labrax*, L.). Accepted in *Gene*.

\* "Corresponding Author"