



- Date and Place of Birth: September 5<sup>th</sup>, 1949, Milan, Italy.
- Present address: Department of Medical Biotechnology and Translational Medicine, University of Milan, Via Fratelli Cervi 93, 20090 Segrate (Milano), Italy. Tel, +39 0250330360; Fax, +39 0250330365; [Sandro.Sonnino@unimi.it](mailto:Sandro.Sonnino@unimi.it)

Academic title:

- 1990-, Full Professor of Biochemistry, School of Medicine, University of Milan.

Academic roles:

- Director of the PhD in Biomedical Sciences
- Responsible of the Radiochemical Laboratories of LITA-Segrate

Past academic titles:

- 1982-1990, Associate Professor of Biochemistry, School of Medicine, University of Milan.
- 1974-1982, Assistant of Biochemistry, School of Medicine, University of Milan.

Past academic roles:

- Coordinator of the Interdisciplinary Laboratory of Advanced Technology of the University of Milan in Segrate (LITA-Segrate)
- President of the Bachelor degree in Dietistic
- Director of the Department of Medical Chemistry, Biochemistry and Biotechnology
- Responsible of the Biochemistry Unit of the Center of Excellence on Neurodegenerative Diseases of the University of Milan
- Director of the PhD School in Biochemical, Nutritional and Metabolic Sciences
- Director of the MD/PhD in Biomedical Sciences

Scientific activity:

1. His scientific research has been particularly directed towards the understanding of the relationships between the structure and function of complex lipid components of neuron cell membranes, and the role of plasma membranes in neuronal degeneration and cancer. In particular, using normal and pathological tissues/cells he studied -the primary structure of isolated gangliosides and glycosphingolipids, -the conformational, dynamic, geometrical and aggregative properties of the main gangliosides from nervous system, -the role of gangliosides in the organization of sphingolipid-enriched membrane domains, -the interaction processes between gangliosides and soluble or membrane proteins, -

- the metabolism of gangliosides, -the role of gangliosides in cell signalling, and -the role of plasma membrane glycohydrolases in modulating cell physiology.
2. The scientific activity is documented by 281 publications, for a total I.F. of over 950 and over 4200 citations.
  3. Secretary of the International Glycoconjugate Organization.
  4. Italian representative in the International Glycoconjugate Organization.
  5. Member of the editorial board of *Neurochemical Research*, of *FEBS Letters*, of *FEBS OpenBio*, of *Glycoconjugate Journal* and of *Metabolic Brain Disease*
  6. Past member of the editorial board of *Journal of Neurochemistry*
  7. Guest Editor of the special issue n°17 of *Glycoconjugate Journal* on "Glycosphingolipids and membrane domains."
  8. Guest Editor of the special issue n°27 of *Neurochemical Research* on "Sphingolipids".
  9. Member of the review panel for the 2003 and 2006 grant application presented to the Deutsche Forschungsgemeinschaft for the Transregional Collaborative Research Centre "Membrane Microdomains and Their Role in Human Disease".
  10. Chair person of the following scientific international meetings:
    - ◆ Satellite meeting of XVIII Glycoconjugate Symposium. Glycobiology of lipid membrane domains: from membrane organization to biological function, Siena, Italy, 2005
    - ◆ 4th ISN Special Neurochemistry Conference "Membrane Domains in CNS physiology and pathology", May 22-26, 2010, Erice (Trapani), Sicily, Italy
    - ◆ Sialoglyco 2010 international symposium, Postdam, Germany.
  11. Permanent member (from 1999) of the executive committee of International Conference on the Eukaryotic Cell Surface Macromolecules, and (from 1994) of the executive committee of Sialoglycoscience International Conference.
  12. Member of the scientific committee for the following international meetings:
    - ◆ Third International Glycobiology Symposium: Current Analytical Methods, San Diego, CA, USA, 1995.
    - ◆ XVIII International Carbohydrate Symposium, Milan, Italy, 1996.
    - ◆ 11<sup>th</sup> Meeting of the European Society for Neurochemistry, Groningen, The Netherlands, 1996.
    - ◆ 12<sup>th</sup> Meeting of the European Society for Neurochemistry, St Petersburg, Russia, 1998.
    - ◆ 2<sup>nd</sup> International "Charleston Ceramide Conference", Como, Italy, 2003
    - ◆ XVIII Glycoconjugate Symposium, Florence, Italy, 2005
    - ◆ IUPAC-IUB meeting: Glycans on proteins and lipids: implications in cellular functions and evolution. Bangalore, India, 2006
  13. His research activity has been performed in the University of Milan and in collaboration with the following laboratories:
    - ◆ Department of Electronics, University of Pavia, Italy
    - ◆ Institute for the Advanced Biomedical Technologies, CNR, Milan, Italy
    - ◆ Centre for the Study of Natural Organic Compounds, CNR, Milan, Italy
    - ◆ Istituto per lo Studio e la Cura dei Tumori, Milan, Italy
    - ◆ Department of Neurology and Neurosurgery, University of Milan, Italy
    - ◆ Department of Organic and Industrial Chemistry, University of Milan, Italy
    - ◆ Institute of Physiology and Biological Chemistry, Faculty of Pharmacy, University of Milan
    - ◆ Department of Agriculture, University of Milan, Italy
    - ◆ Istituto Superiore di Sanita', Roma
    - ◆ Institute of Experimental Medicine, Locarno, Switzerland
    - ◆ Max Plank Institut, Heidelberg, Germany

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- ◆ Max Plank Institut, Gottingen, Germany
- ◆ University of Stuttgart, Stuttgart, Germany
- ◆ University of Kiel, Kiel, Germany
- ◆ University of Bonn, Bonn, Germany
- ◆ Tulane University, New Orleans, USA
- ◆ University of Athens, Athens, USA
- ◆ University of Virginia, Charlottesville, USA
- ◆ University of Washington, Seattle, USA
- ◆ INSERM U-134, Paris, France
- ◆ Istitut Pasteur, Paris, France
- ◆ Juntendo University, Tokyo, Japan
- ◆ Riken, Tokyo, Japan
- ◆ Tohoku Pharmaceutical University, Sendai, Japan
- ◆ Università Vita e Salute, Milano, Italy
- ◆ DIBIT, Ospedale San Raffaele, Milano, Italy

## PUBLICATIONS

- 283** Sonnino S. and Prinetti A. (2016) Sphingolipids and neuronal plasticity. *J. Neurochem.*, accepted
- 282** Sonnino S., Chiricozzi E., Ciampa M.G., Mauri L., Prinetti A., Toffano G. and Aureli M. (2016) Serum antibodies to glycan in peripheral neuropathies. *Mol. Neurobiol.* DOI: 10.1007/s12035-016-9775-8
- 281** Aureli M, Grassi S, Prioni S, Sonnino S and Prinetti A (2015) Lipid membrane domains in the brain. *BBA Molecular and Cell Biology of Lipids*, doi: 10.1016/j.bbalip.2015.02.001
- 280** Aureli M, Mauri L, Ciampa MG, Prinetti A, Toffano G, Secchieri C and Sonnino S (2015) GM1 ganglioside: past studies and future potential. *Mol. Neurobiol.* DOI: 10.1007/s12035-015-9136-z
- 279** Shiozaki K, Takahashi K, Hosono M, Yamaguchi K, Hata K, Shiozaki M, Bassi R, Prinetti A, Sonnino S, Nitta K and Miyagi T (2015) Phosphatidic acid-mediated activation and translocation to the cell surface of sialidase NEU3, promoting signaling for cell migration *FASEB J.* doi:10.1096/fj.14-262543
- 278** Sonnino S, Aureli M, Mauri L, Ciampa MG, Prinetti A. (2015) Membrane lipid domains in the nervous system. *Front Biosci (Landmark Ed)*. 20: 280-302.
- 277** Chiricozzi E, Ciampa MG, Brasile G, Compostella F, Prinetti A, Nakayama H, Ekyalongo RC, Iwabuchi K, Sonnino S, Mauri L. (2015) Direct interaction, instrumental for signaling processes, between LacCer and Lyn in the lipid rafts of neutrophil-like cells. *J Lipid Res.* 56:129-41.
- 276** Aureli M, Samarani M, Murdica V, Mauri L, Loberto N, Bassi R, Prinetti A, Sonnino S. (2014) Gangliosides and cell surface ganglioside glycohydrolases in the nervous system. *Adv Neurobiol.* 9: 223-44.
- 275** Aureli M, Murdica V., Loberto N., Samarani M., Prinetti A., Bassi R. and Sonnino S., (2014) Exploring the link between ceramide and ionizing radiation. *Glycoconjugate J.* 31:449–459
- 274** Loberto N, Tebon M, Lampronti I, Marchetti N, Aureli M, Bassi R, Giri MG, Bezzerri V, Lovato V, Cantù C, Munari S, Cheng SH, Cavazzini A, Gambari R, Sonnino S, Cabrini G, Dechecchi MC. (2014) GBA2-Encoded  $\beta$ -Glucosidase Activity Is Involved in the Inflammatory Response to *Pseudomonas aeruginosa*. *PLoS One.* 9: e104763. doi: 10.1371/journal.pone.0104763. eCollection 2014.

- 273** Schöndorf DC, Aureli M, McAllister F, Hindley C, Mayer F, Schmid B, Sardi S, Valsecchi M, Hoffmann S, Schwarz LK, Hedrich U, Berg D, Shihabuddin LS, Hu J, Pruzsak J, Gygi S, Sonnino S, Gasser T, and Deleidi M (2014) iPSC-derived neurons from GBA1-associated Parkinson's disease patients show autophagic defects and impaired calcium homeostasis, *Nature Communications* 5, doi:10.1038/ncomms5028.
- 272** Sonnino S, Aureli M, Grassi S, Mauri L, Prioni S, Prinetti A. Lipid Rafts in Neurodegeneration and Neuroprotection. (2014) *Mol Neurobiol.* 50, 130-148.
- 271** Chiricozzi E, Niemir N, Aureli M, Magini A, Loberto N, Prinetti A, Bassi R, Polchi A, Emiliani C, Caillaud C, Sonnino S. Chaperone Therapy for GM2 Gangliosidosis: Effects of Pyrimethamine on  $\beta$ -Hexosaminidase Activity in Sandhoff Fibroblasts. (2014) *Mol Neurobiol* 50, 159-167
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- 269** Sonnino S, Prinetti A. (2014) Membrane domains and the "lipid raft" concept. *Curr Med Chem.* 20:4-21.
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- 266** Santambrogio S, Ricca A, Maderna C, Ieraci A, Aureli M, Sonnino S, Kulik W, Aimar P, Bonfanti L, Martino S, Gritti A. (2012) The galactocerebrosidase enzyme contributes to maintain a functional neurogenic niche during early post-natal CNS development. *Hum Mol Genet.* 21:4732-50.
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- 264** Valsecchi M., Mauri L., Casellato R., Ciampa M.G., Rizza L., Bonina A., Bonina F., Sonnino S. (2012) Ceramides as possible nutraceutical compounds: characterization of the ceramides of the moro blood orange (citrus sinensis). *J Agr Food Chem*, 60, 10103-10110.
- 263** Rondelli V., Fragneto G., Motta S., Del Favero E., Brocca P., Sonnino S., Cantù L. (2012) Ganglioside GM1 forces the redistribution of cholesterol in a biomimetic membrane *BBA* 1818, 2860 – 2867.
- 262** Aureli M., Bassi R., Prinetti A., Chiricozzi E, Pappalardi, V. Chigorno, N. Di Muzio, N. Loberto, Sonnino S. (2012) Ionizing radiations increase the activity of the cell surface glycohydrolases and the plasma membrane ceramide content. *Glycoconjugate J*, 29, 585-597.
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- 260** Aureli M., Gritti A., Bassi R., Loberto N., Ricca A., Chigorno V., Prinetti A., Sonnino S. (2012) Plasma membrane-associated glycohydrolases along differentiation of murine neural stem cells. *Neurochem Res*, 37, 1344-1354.
- 259** Mauri L., Casellato R., Ciampa M.G., Yekusa, Casellato R., Ciampa M.G., Uekusa Y., Kato K., Kaida K-i, Motoyama M., Kusunoki S., Sonnino S. (2012) Anti-GM1/GD1a complex antibodies in GBS sera specifically recognize the hybrid dimer GM1-GD1a. *Glycobiology*, 22, 352 – 360.
- 258** Salvati E., Masserini M., Sesana S., Sonnino S. Re F., Gregori M. (2012) Liposomes Functionalized with GT1b Ganglioside with High Affinity for Amyloid - peptide. *J Alzheimers Dis*, 29 (supplement), 33-36.
- 257** Aureli M., Bassi R., Loberto N., Regis S., Prinetti A., Chigorno V., Aerts J.M., Boot R.G. Filocamo M. (2012) Cell surface associated glycohydrolases in normal and Gaucher disease fibroblasts. *J Inherit Metab Dis*, 35, 1081-1091.

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- 255** Prinetti A., Prioni S., Chiricozzi E., Schuchman E.H., Chigorno V., S. Sonnino (2011) Secondary alterations of sphingolipids metabolism in lysosomal storage diseases. *Neurochem Res*, 36, 1654-1668.
- 254** Aureli M., Loberto N., V. Chigorno, A. Prinetti, S. Sonnino (2011) Remodeling of sphingolipids by plasma membrane associated enzymes. *Neurochem Res*, 36, 1636-1644.
- 253** Tancini B., Magini A., Bortot B., Polchi A., Urbanelli L., Sonnino S., Severini G.M., Emiliani C. (2011)  $\beta$ -Hexosaminidase over-expression affects lysosomal glycohydrolase expression and glycosphingolipid metabolism in mammalian cells. *Mol Cell Biochem*, 363, 109-118.
- 252** Prinetti A., Cao T., Illuzzi G., Prioni S., Aureli M., Gagliano N., Tredici G., Rodriguez-Menendez V., Chigorno V., Sonnino S., (2011) A glycosphingolipid/Caveolin-1 Signaling Complex Inhibits Motility of Human Ovarian Carcinoma Cells. *J Biol Chem*, 286, 40900-40910.
- 251** Cantù L., E. Del Favero, S. Sonnino, A. Prinetti (2011) Gangliosides and multiscale modulation of membrane structure. *Chem Phys Lipids*, 168, 796-810.
- 250** Prinetti A., Prioni S., Loberto N., Aureli M., Nocco V., Illuzzi G., Mauri L., Valsecchi M., Chigorno V., Sonnino S. (2011) Aberrant Glycosphingolipid Expression and Membrane Organization in Tumor Cells: Consequences on Tumor-Hos Interactions *Adv Exptl Med Biol* 705, 643-667.
- 249** Sonnino S., Chigorno V., Aureli M., Priscilla A. P. Masilamani. Valsecchi M., Loberto N., Prioni S., Mauri L., Prinetti A. (2011) Role of Gangliosides and Plasma Membrane-Associated Sialidase in the Process of Cell Membrane Organization *Adv Exptl Med Biol* 705, 297-316.
- 247** Sonnino S., Prinetti A., Nalivaeva N., Turner T. (2010) Membrane domains in CNS Physiology and Pathology" *J Neurochem*, 116, 669-670.
- 246** Del Favero E., Brocca P., Motta S., Rondelli V., Sonnino S, Cantù L. (2011) Nanoscale structural response of ganglioside-containing aggregates to the interaction with sialidase. *J Neurochem*, 116, 833-839.
- 245** Sonnino S., Prinetti A. (2010) Lipids and membrane lateral organization. *Frontiers in Membrane Physiology and Biophysics* 1, 53 1-9.
- 244** Ledesma M.D., Prinetti A., Sonnino S., Schuchman E. H. (2011) Brain pathology in Niemann Pick disease type A: Insights from the acid sphingomyelinase knockout mice. *J Neurochem*, 116, 779-788.
- 243** Aureli M., Loberto N., Lanteri P., V. Chigorno, Prinetti A., Sonnino S. (2010) Cell surface sphingolipid glycohydrolases in neuronal differentiation and aging in culture. *J Neurochem*, 116, 891-899.
- 242** Sonnino S., Prinetti A. (2010) Gangliosides as Regulators of Cell Membrane Organization and Functions *Adv Exptl Med Biol* 688, 165-184.
- 241** Gobbi M., Re F., Canovi M., Beeg M., Gregori M., Sesana S., Sonnino S., Brogioli D., Musicanti C., Gasco P., Salmona M., Masseurini M.E. (2010) Lipid-based nanoparticles with high binding affinity for amyloid- $\beta_{1-42}$  peptide. *Biomaterials*, 31, 6519-6529.
- 240** Sonnino S. (2010) Frontiers in membrane biochemistry. *Febs Lett*, 584, 1633.
- 239** Aureli M., Prioni S., Mauri L., Loberto N., Casellato R., Ciampa MG., Chigorno V., Prinetti A., Sonnino S. (2010) Photoactivable sphingosine as a tool to study membrane microenvironments in cultured cells. *J Lipid Res*, 51, 798 – 808.
- 238** Valsecchi M., Aureli M., Mauri L., Chigorno V., Prinetti A. and Sonnino S. (2010) Sphingolipidomics of A2780 human ovarian carcinoma cells treated with synthetic retinoids. *J Lipid Res*, 51, 1832 - 1840.

- 237** Illuzzi G., Bernacchioni C., Aureli M., Prioni S., Donati C., Chigorno V., Bruni P., Sonnino S., and Prinetti A. (2010) Sphingosine kinase mediates resistance to the synthetic retinoid N-(4-hydroxyphenyl) retinamide in human ovarian cancer cells. *J Biol Chem*, 285,18594-18602.
- 236** Sonnino S., Aureli M., Loberto N., Chigorno V. and Prinetti A. (2010) Fine tuning of cell functions through remodeling of glycosphingolipids by plasma membrane-associated glycohydrolases. *FEBS Lett*, 584, 1914-1922.
- 235** Piccinini M., Scandroglio F. Prioni S., Buccinà B., Loberto N., Aureli M., Chigorno V., Lupino E., DeMarco G., Lomartire A., Rinaudo M., Sonnino S. and Prinetti A. (2010) Deregulated sphingolipid metabolism and membrane organization in neurodegenerative disorders. *Mol Neurobiol*, 41, 314-340.
- 234** Prinetti A, Aureli M, Illuzzi G, Prioni S, Nocco V, Scandroglio F, Gagliano N, Tredici G, Rodriguez-Menendez V, Chigorno V, Sonnino S. (2010) GM3 synthase overexpression results in reduced cell motility and caveolin-1 up-regulation in human ovarian carcinoma cells. *Glycobiology* 20, 62-77.
- 233** Villablanca E. J., Raccosta L., Zhou D., Fontana R., Maggioni L., Negro A., Sanvito F., Ponzoni M., Valentini B., Bregni M., Prinetti A., Steffensen K.R., Sonnino S., Gustafsson J-A., Doglioni C., Bordignon C., Traversari C. and Russo V. (2010) Tumor-mediated LXR- $\alpha$  activation inhibits CC chemokine receptor7 expression on dendritic cells and dampens antitumor responses. *Nat Med*, 16, 98-105.
- 232** Aureli M., Masilamani A.P., Illuzzi G., Loberto N., Scandroglio F., Prinetti A., Chigorno V. and Sonnino S. (2009) Activity of plasma membrane  $\beta$ -galactosidase and  $\beta$ -glucosidase. *FEBS Lett* 583, 2469-2473.
- 231** Chigorno V., Pitto M., Sonnino S., Goi G., (2009) Utilizzo dei fibroblasti in coltura nella diagnostica biochimica delle malattie di accumulo lisosomale. *BC biochimica clinica*, 33, 112-121.
- 230** Martino S., Di Girolamo I., Cavazzin C., Tiribuzi R., Galli R., Rivaroli A., Valsecchi M. Sandhoff K., Sonnino S., Vescovi A., Gritti A., Orlacchio A. (2009) Neural precursor cell cultures from GM2-gangliosidosis animal models recapitulate the biochemical and molecular hallmarks of the brain pathology. *J Neurochem*, 109, 135-147.
- 229** Prinetti, A., Sonnino S. (2009) Sphingolipids and membrane environments for caveolin. *FEBS Lett* 583, 597-606.
- 228** Buccinà B., Piccinini M., Prinetti A., Prioni S., Scandroglio F., Valsecchi M., Votta B., Grifoni S., Lupino E., Ramondetti C., Schuchman E.H., Sonnino S., Rinaudo M.T. (2009) Alterations of myelin-specific proteins and sphingolipids characterize the brains of acid sphingomyelinase-deficient mice, an animal model of niemannpick disease type A. *J Neurochem*, 109, 105-115.
- 227** Prinetti A., Loberto N., Chigorno V., Sonnino S. (2009) Glycosphingolipid behaviour in complex membranes. *BBA-Biomembranes*, 1788, 184-193.
- 226** Sonnino S., Prinetti A., Nakayama H., Yangida M., Ogawa H. and Iwabuchi K. (2008) Role of very long fatty acid-containing glycosphingolipids in membrane organization and cell signaling: the model of lactosylceramide in neutrophils. *Glycoconjugate J*, 26, 615-621.
- 225** Sonnino S., Prinetti A. (2008) Membrane lipid domains and membrane lipid domain preparations: are they the same thing? *Trends in Glycoscience and Glycotechnology*, 116, 315-340.
- 224** Scandroglio F, Kummetha Venkata J., Loberto N., Prioni S., Schuchman E.H., Chigorno C., Prinetti A. and Sonnino S. (2008) Lipid contents of brain, of brain membrane lipid domains and of neurons from acidic sphingomyelinase deficient mice (ASMKO). *J Neurochem*, 107, 329-338.
- 223** Prinetti A., Rocchetta F., Costantino E., Frattini A., Caldana E., Rucci F., Bettiga A., Poliani P.L., Chigorno V. and Sonnino S (2008) Brain lipid composition in Grey-lethal mutant mouse characterized by severe malignant osteopetrosis. *Glycoconjugate J*, 26, 623-633.
- 222** Scandroglio F., Loberto N., Valsecchi M., Chigorno V., Prinetti A. and Sonnino S. (2008) Thin layer chromatography of gangliosides. *Glycoconjugate J*, 26,961-973.

- 221** E.J. Villablanca, D. Zhou, B. Valentinis, A. Negro, L. Raccosta, L. Mauri, A. Prinetti, S. Sonnino, C. Bordignon, C. Traversari and V. Russo (2008) Selected natural and synthetic retinoids impair CCR7- and CXCR4-dependent cell migration *in vitro* and *in vivo*. *Journal Leukocyte Biol*, 84, 871-879.
- 220** Spotlight on ...Sandro Sonnino (2008) *FEBS Lett* 582, 843.
- 219** Sahores M., Prinetti A., Chiabrando G., Blasi F. and Sonnino S. and Blasi F. (2008) uPA binding increases uPAR localization to lipid rafts and modifies the receptor microdomain composition. *Biochim Biophys Acta – Biomembranes* 1778, 250-259.
- 218** Nakayama H., Yoshizaki F., Prinetti A., Sonnino S., Mauri L., Takampri K., Ogawa H., Iwabuchi K. (2008) Lyn-coupled LacCer-enriched lipid rafts are required for CD11b/CD18-mediated neutrophil phagocytosis of non-opsonized microorganisms. *J Leukocyte Biol* 83, 728-741.
- 217** Iwabuchi K., Prinetti A., Sonnino S., Mauri L., Kobayashi T., Ishii K., Kaga N., Murayama K., Kurihara H., Nakayama H., Yoshizaki F., Takamori K., Ogawa H., Nagaoka. (2008) Involvement of very long fatty acid-containing lactosylceramide in lactosylceramide-mediated superoxide generation and migration in neutrophils. *Glycoconjugate J* 25, 357–374.
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- 215** Prinetti A., Mauri L., Chigorno V. and Sonnino S. (2007) Lipid membrane Domains in Glycobiology, **Comprehensive Glycoscience**, from Chemistry to Systems Biology J. Kamerling, G.-J. Boons, Y. Lee, A. Suzuki, N. Taniguchi, A.G.J. Voragen, eds., Vol 1, pp 697-731, 2007 Elsevier.
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- 211** Prinetti A., Prioni S., Loberto N., Aureli M., Chigorno V. and Sonnino S. (2008) Regulation of tumor phenotypes by caveolin-1 and sphingolipid-controlled membrane signaling complexes . *BBA-Gen Subjects*, 1780, 585-596.
- 210** Prinetti A., Chigorno V., Mauri L., Loberto N., Sonnino S. (2007) Modulation of cell functions by glycosphingolipid metabolic remodeling in the plasma membrane *J Neurochem*, 103 (suppl. 1), 113-125.
- 209** Roperto S., Borzacchiello G., Casellato R., Galati P., Russo V., Sonnino S. and Roperto F. (2007) Sialic acid and GM3 ganglioside expression in some papillomavirus-associated urinary bladder tumours of cattle. *J Comp Pathol*, 137, 87-93.
- 208** Perrotta C., Bizzozero L., Falcone S., Rovere-Querini P., Prinetti A., Schuchman E.H., Sonnino S, Manfredi A.A. and Clementi E. (2007) Nitric oxide boosts chemioimmunotherapy via inhibition of acid sphingomyelinase in a mouse model of melanoma. *Cancer Res*, 67, 7559-7564.
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## Patents

- 1a** Kirschner G. and Sonnino S. (2000) Process for the preparation of ganglioside GM3 by acid hydrolysis of ganglioside nesters and its use in the pharmaceutical field, *World Intellectual Property organization International Bureau, International application published under the patent cooperation treaty (PCT)*.