

INFORMAZIONI PERSONALI

Cosimo Roberto Melcangi

ESPERIENZA PROFESSIONALE

Dal 2017 **Professore Ordinario di Endocrinologia (MEDS-08/A)**
Università degli Studi di Milano

Dal 2001 al 2017 **Professore Associato di Endocrinologia (MED13)**
Dipartimento di Scienze Farmacologiche e Biomolecolari, Università degli Studi di Milano

DAL 1992 AL 2001 **Ricercatore Universitario,**
Istituto di Endocrinologia e Dipartimento di Endocrinologia, Università degli Studi di Milano

1987 **Postdoctoral fellow at the Centre of Neurochimie,**
Strasbourg, France

ISTRUZIONE E FORMAZIONE

1988 **PhD in Scienze Endocrinologiche e Metaboliche**
Università degli Studi di Milano

1982 **Laurea in Chimica e Tecnologia Farmaceutiche, Facoltà di Farmacia**
Università degli Studi di Milano

COMPETENZE PERSONALI

Lingua madre Italiano

Altre lingue Inglese

Competenze Comunicative

Ottime capacità comunicative ottenuta grazie all'esperienza di docente Universitario e di relatore a conferenze Internazionali e Nazionali

Competenze organizzative e gestionali

Leader di un gruppo di ricerca da più di 20 anni
Esperienza nell'organizzazione e nel coordinamento di un gruppo di ricerca e coordinazione di progetti su scala nazionale ed internazionale

ULTERIORI INFORMAZIONI

Publicazioni	Autore di 245 pubblicazioni in riviste peer-review H Index: 60 (Scopus)
Citazioni	Numero totale citazioni: 10024
Conferenze Seminari	Ultimi 8 anni-Invited speakers a: 2016- 29th ECNP Congress, Vienna, Austria 2016- 9th European Congress of Andrology, Rotterdam, The Netherlands. 2016- XII National Congress of Italian Society for Andrology and Sexual Medicine, Roma, Italy. 2017- 11th Annual Meeting Organization for the Study of Sex Differences, Montreal, Quebec 2018- Colegio Colombiano de Neurociencias, Bogotá, Colombia. 2018- The new challenge of biomedicine: The study of gender-specific disease in basic and clinical sciences, Roma, Italy 2019- 21st Congress of the European Society for Sexual Medicine, Ljubljana, Slovenia 2020- Breaking the Frontiers of Endocrine Body-Brain Signaling, Madrid, Spain 2022- 60 anos Dept de Fisiologia, Biofisica y Neurociencias-Mexico City 2022- Androgen Society Annual Meeting 2022- Orlando-Florida, USA
Progetti/Grants	Responsabile e coordinatore di progetti finanziati da Agenzie Italiane (Ministero dell'Università e Ricerca, Ministero della Salute), Fondazioni (CARIPLO, Telethon, FISM, Post-Finasteride Syndrome Foundation), Comunità Europea (RTD program).
Organizzazione di Congressi	1998- POC "IV International Congress of Neuroendocrinology" Kitakyushu, Japan. 2000- Organizzatore della tavola rotonda "Hormones, Glia and Myelin in Central and Peripheral Nervous System" -IV European meeting on glial cell function in health and disease, Barcelona, Spain. 2000- Organizzatore del Simposio "Growth factor-gonadal steroid interactions in hypothalamic function" -Forum of European Neuroscience 2000, Brighton, UK. 2004- POC "4 th Forum of European Neuroscience" Lisbon, Portugal. 2006- POC "12 th International Congress on Hormonal Steroids and Hormones & Cancer" Athens, Greece. 2007 Organizzatore del 1° Meeting del Gruppo Italiano di Scienze Neuroendocrine (GISNe), Torino, Italia. 2009- Organizzatore del Congresso Nazionale della Società Italiana di Neuroscienze, Milano, Italia 2010 Organizzatore del 4° Meeting GISNe, Torino, Italia. 2010- Organizzatore del National Meeting of PhD students in Neuroscience, Busto Arsizio, Italy. 2011- Organizzatore del 5° Meeting GISNe, Torino, Italia. 2013- POC "XI European Meeting on Glial Cells in Health and Disease" Berlin, Germany 2014- LOC "Federation of European Neurosciences" 2014, Milano, Italia. 2000-2002-2004-2006-2008-2010-2012 International Symposium on Neurobiology and Neuroendocrinology of Aging" Bregenz, Austria. 2001-2003-2005-2007-2009-2011-2013-2015-2017-2019-2022-2024 Organizer of International Meeting "Steroids and Nervous System" Torino, Italy.
Altre Attività	2001-2007 Rappresentante Europeo nel Direttivo dell' International Neuroendocrine Federation 2005-2009 Membro del Direttivo della Società Italiana di Neuroscienze (SINS) 2005-2009 Membro della Commissione Scientifica della Società Italiana di Endocrinologia (SIE) 2006-on Membro del Direttivo GISNe 2006-on Membro del Direttivo del Centro di Eccellenza per Malattie Neurodegenerative (CEND) 2010-2011 Membro della Commissione di aggiornamento scientifico della SIE 2011-2013 Member of Scientific Commission of SIE 2011-2013 Membro della Commissione Regionale (Lombardia) della SIE 2013-2017 Membro del Direttivo della SIE Attività Editoriale -Guest Editor: Brain Res. Rev. 37:1-384, 2001/Annals of the New York Academy of Sciences volume 1007, anno 2003/ Neuroscience 138:733-1048, 2006/ J. Mol. Neurosci. 28:1-102, 2006/ Neurochem. Int. 52:503-904, 2008/ Brain Res. Rev. 57: 271-605, 2008/ Psychoneuroendocrinology 34, supplement 1, December 2009 ISSN 0306-4530/ Neuroscience 191: 2011/ Neuroendocrinology, 24: 1-248, 2012/ J. Neuroendocrinol., 25: 957-1237, 2013/ Prog.Neurobiol. 113: 1-136, 2014/ J. Steroid Biochem. Mol. Biol., 160: 1-226, 2016/ Neurosci. Biobehav. Rev. 67: 1-146, 2016/J. Neuroendocrinol. 30, 2019/ Frontiers in Neuroendocrinology, 48:1-78, 2019/ J Neuroendocrinology 32, 2020/ Frontiers in Neuroendocrinology 2020/ J. Neuroendocrinology 34, 2022/ J. Neuroendocrinology 35, 2023/ Biomolecules 13, 2023 (ISSN 2218-273X).
Memberships	Società Italiana di Endocrinologia (SIE) Società Italiana di Neuroscienze (SINS)

ALLEGATI

Lista delle pubblicazioni Scientifiche

Dati Personali

Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 (Codice in materia di protezione dei dati personali) e sue successive modifiche e integrazioni, nonché del Regolamento UE 679/2016 (Regolamento Generale sulla Protezione dei dati o, più brevemente, RGPD).

Firma

ANNEX 1 - Lista delle pubblicazioni

Celotti F., Negri-Cesi P., Limonta P., Melcangi C. Is the 5 α -reductase of the hypothalamus and of the anterior pituitary neurally regulated? Effects of hypothalamic deafferentations and of centrally acting drugs. *J. Steroid Biochem.* 19:229-234, 1983.

Celotti F., Avogadri N., Melcangi C., Milani S., Negri-Cesi P. Cyclophenil, a non steroidal compound with higher central than peripheral estrogenic activity: study of its uterine growth activity in comparison with some central parameters in castrated female rats. *Acta Endocrinol.* 107:340-345, 1984.

Melcangi R.C., Celotti F., Negri-Cesi P., Martini L. Testosterone 5 α -reductase in discrete hypothalamic nuclear areas in the rat: effect of castration. *Steroids* 45:347-356, 1985.

Celotti F., Apud J.A., Melcangi R.C., Masotto C., Tappaz M., Racagni G. Endocrine modulation of GABA-ergic innervation in the rat fallopian tube. *Endocrinology* 118:334-339, 1986.

Celotti F., Melcangi R.C., Negri-Cesi P., Ballabio M. and Martini. A comparative study of the metabolism of testosterone in the neuroendocrine structures of several animal species. *Neuroendocrinology lett.* 8:227-235, 1986.

Celotti F., Apud J.A., Rovescalli A.C., Melcangi R.C., Negri-Cesi P., Racagni G. The GABAergic extrinsic innervation of the rat fallopian tubes: biochemical evidence and endocrine modulation. *Advances Biochem Psychopharmacol.* 42: 251-264, 1986.

Negri-Cesi P., Celotti F., Melcangi R.C., Zanisi M. and Motta M. Tamoxifen does not block the inhibitory effect of testosterone on FSH release in rat. *Acta Endocrinol.* 114:84-89, 1987.

Celotti F., Melcangi R.C., Negri-Cesi P., Ballabio M. and Martini L. Differential distribution of the 5 α -reductase in the central nervous system of the rat and the mouse: are the white matter structures of the brain target tissue for testosterone action? *J. Steroid. Biochem.* 26:125-129, 1987.

Negri-Cesi P., Celotti F., Melcangi R.C. and Martini L. Androgen metabolism in the male hamster. 1. Metabolism of testosterone in the pituitary gland and in the brain of animals exposed to different photoperiods. *J. Steroid Biochem.* 28:179-184, 1987.

Melcangi R.C., Celotti F., Poletti A., Negri-Cesi P. and Martini L. The 5 α -reductase activity of the subcortical white matter, the cerebral cortex and the hypothalamus of the rat and of the mouse: possible sex differences and effect of castration. *Steroids* 49:259-270, 1987.

Melcangi R.C., Celotti F., Ballabio M., Poletti A., Castano P. and Martini L. Testosterone 5 α -reductase activity in the rat brain is highly concentrated in white matter structures and in purified myelin sheaths of axons. *J. Steroid Biochem.* 31:173-179, 1988.

Melcangi R.C., Celotti F., Ballabio M., Castano P., Poletti A., Milani S., Martini L. Ontogenetic development of the 5 α -reductase in the rat brain: cerebral cortex, hypothalamus, purified myelin and isolated oligodendrocytes. *Dev. Brain Res.* 44:181-188, 1988.

Melcangi R.C., Celotti F., Ballabio M., Camaghi R., Poletti A., Martini L. Effect of postnatal starvation on the 5 α -reductase activity of the brain and of the isolated myelin membranes. *Exp. Clin. Endocrinol.* 94:253-261, 1989.

Poletti A., Celotti F., Melcangi R.C., Ballabio M., Martini L. Kinetic properties of 5 α -reductase of testosterone in the purified myelin, in the subcortical white matter and in the cerebral cortex of the male rat brain. *J. Steroid Biochem.* 35:97-101, 1990.

Melcangi R.C., Celotti F., Ballabio M., Castano P., Massarelli R., Poletti A., Martini L. 5 α -reductase activity in isolated and cultured neuronal and glial cells of the rat. *Brain Res.* 516: 229-236, 1990.

Martini L., Celotti F., Lechuga M.J., Melcangi R.C., Motta M., Negri-Cesi P., Poletti A., Zoppi S. Androgen metabolism in different target tissues. *Annals of the New York Academic Sciences* 595:184-198, 1990.

Melcangi R.C., Celotti F., Ballabio M., Poletti A., Martini L. Testosterone metabolism in peripheral nerves: presence of the 5 α -reductase-3 α -hydroxysteroid-dehydrogenase enzymatic system in the sciatic nerve of

adult and aged rats. *J. Steroid Biochem.* 35:145-148,1990.

Celotti F., Melcangi R.C., Negri-Cesi P., Poletti A. Testosterone metabolism in brain cells and membranes. *J. Steroid Biochem. Molec. Biol.* 40: 673-678,1991.

Martini L., Melcangi R.C. Androgen metabolism in the brain. *J. Steroid Biochem. Molec. Biol.* 39: 819-828, 1991.

Celotti F., Melcangi R.C., Martini L. The 5 α -reductase in the brain: molecular aspects and relation to brain function. *Front. Neuroendocrinol.* 13:163-215,1992.

Negri-Cesi P., Melcangi R.C., Celotti F., Martini L. Aromatase activity in cultured brain cells: difference between neurons and glia. *Brain Res.* 589:327-332,1992.

Melcangi R.C., Celotti F., Castano P., Martini L. Is the 5 α -reductase-3 α -hydroxysteroid dehydrogenase complex associated with the myelin in the peripheral nervous system of young and old male rats? *Endocrine Reg.* 26:119-125,1992.

Melcangi R.C., Celotti F., Castano P., Martini L. Intracellular signalling systems controlling the 5 α -reductase in glial cell cultures. *Brain Res.* 585: 411-415,1992.

Volterra A., Trotti D., Cassuti P., Tromba C., Salvaggio A., Melcangi R.C., Racagni G. High sensitivity of glutamate uptake to extracellular free arachidonic acid levels in rat cortical synaptosomes and astrocytes. *J. Neurochem.* 59:600-606,1992.

Negri-Cesi P., Melcangi R.C., Celotti F., Martini L. Distribution of aromatase activity in cultured neurons and glia cells. *J. Steroid Biochem. Molec. Biol.* 44: 637-639, 1993.

Martini L., Melcangi R.C., Maggi R. Androgen and progesterone metabolism in the central and peripheral nervous system. *J. Steroid Biochem. Molec. Biol.* 47:195-205,1993.

Melcangi R.C., Celotti F., Castano P., Martini L. Differential localization of the 5 α -reductase and the 3 α -hydroxysteroid dehydrogenase in neuronal and glial cultures. *Endocrinology* 132:1252-1259, 1993.

Melcangi R.C., Maggi R., Martini L. Testosterone and progesterone metabolism in the human neuroblastoma cell line SH-SY5Y. *J. Steroid Biochem. Molec. Biol.* 46: 811-818,1993.

Melcangi R.C., Celotti F., Martini L. Progesterone 5 α -reduction in neurons, astrocytes and oligodendrocytes. *Brain Res.* 639:202-206, 1994.

Melcangi R.C., Celotti F., Martini L. Neurons influence the metabolism of testosterone in cultured astrocytes via humoral signals. *Endocrine* 2:709-713, 1994.

Santagati S., Melcangi R.C., Celotti F., Martini L., Maggi A. Estrogen receptor is expressed in different types of glial cells in culture. *J. Neurochem.* 63:2058-2064,1994.

Poletti A., Melcangi R.C., Negri-Cesi P., Maggi R., Martini L. Steroid binding and metabolism in the luteinizing hormone-releasing hormone-producing neuronal cell line GT1-1. *Endocrinology* 135:2663-2628,1994.

Melcangi R.C., Ballabio M., Magnaghi V., Celotti F. Metabolism of steroids in pure cultures of neurons and glial cells: role of intracellular signalling. *J. Steroid Biochem. Molec. Biol.* 53:331-336, 1995.

Melcangi R.C., Galbiati M., Messi E., Piva F., Martini L., Motta M. Type 1 astrocytes influence luteinizing hormone-releasing hormone release from the hypothalamic cell line GT1-1: is transforming growth factor- β the principle involved? *Endocrinology* 136:679-686,1995.

Melcangi R.C., Riva M.A., Fumagalli F., Magnaghi V., Racagni G., Martini L. Effect of progesterone, testosterone and their 5 α -reduced metabolites on GFAP gene expression in type 1 astrocytes. *Brain Res.* 711:10-15, 1996.

Martini L., Celotti F., Melcangi R.C. Testosterone and progesterone metabolism in the central nervous system: cellular localization and mechanism of control of the enzymes involved. *Cell Molec. Neurobiol.* 16, 271-282, 1996.

Melcangi R.C., Froelichsthal P., Martini L., Vescovi A.L. Steroid metabolizing enzymes in pluripotential progenitor CNS cells: effect of differentiation and maturation. *Neuroscience* 72:467-475, 1996.

Galbiati M., Zanisi M., Messi E., Cavarretta I., Martini L., Melcangi R.C. Transforming growth factor- β and astrocytic conditioned medium influence luteinizing hormone-releasing hormone gene expression in the hypothalamic cell line GT1. *Endocrinology* 137: 5605-5609, 1996.

Melcangi R.C., Galbiati M., Messi E., Magnaghi V., Cavarretta I., Riva, M.A., Zanisi M. Astrocyte-neuron interactions in vitro: role of growth factors and steroids on LHRH dynamics. *Brain Res. Bull.* 44: 465-469, 1997.

Poletti A., Negri-Cesi P., Melcangi R.C., Colciago A., Martini L., Celotti F. Expression of androgen-activating enzymes in cultured cells of developing rat brain. *J. Neurochem.* 68: 1298-1303, 1997.

Martini L., Melcangi R.C. The brain: a vulnerable target. *Exp. Gerontol.* 32: 355-362, 1997.

Melcangi R.C., Magnaghi V., Cavarretta I., Riva M.A., Martini L. Corticosteroid effects on gene expression of myelin basic protein in oligodendrocytes and of glial fibrillary acidic protein in type 1 astrocytes. *J. Neuroendocrinol.* 9: 729-733, 1997.

De Marchis S., Melcangi R.C., Modena C., Cavarretta I., Peretto P., Agresti C., Fasolo A. Identification of the glial cell types containing carnosine-related peptides in the rat brain. *Neuroscience Letters* 237: 37-40, 1997.

Melcangi R.C., Poletti A., Cavarretta I., Celotti F., Colciago A., Magnaghi V., Motta M., Negri-Cesi P., Martini L. The 5 α -reductase in the central nervous system: expression and modes of control. *J. Steroid Biochem. Molec. Brain Res.* 65:295-299, 1998.

Melcangi R.C., Cavarretta I., Magnaghi V., Ballabio M., Martini L., Motta M. Crosstalk between normal and tumoral brain cells. Effect on sex steroid metabolism. *Endocrine* 8: 65-71, 1998.

Melcangi R.C., Magnaghi V., Cavarretta I., Martini L., Piva F. Age-induced decrease of glycoprotein P0 and Myelin Basic Protein gene expression in the rat sciatic nerve. Repair by steroid derivatives. *Neuroscience* 85: 569-578, 1998.

Melcangi R.C., Magnaghi V., Cavarretta I., Riva M.A., Piva F., Martini L. Effects of steroid hormones on gene expression of glial markers in the central and peripheral nervous system: variations induced by aging. *Exp. Gerontol.*, 33:827-836, 1998.

Melcangi R.C., Magnaghi V., Cavarretta I., Zucchi I., Bovolín P., D'Urso D., Martini L. Progesterone derivatives are able to influence peripheral myelin protein 22 and P0 gene expression: possible mechanisms of action. *J. Neurosci. Res.*, 56: 349-357, 1999.

Magnaghi V., Cavarretta I., Zucchi I., Susani L., Rupprecht R., Hermann B., Martini L., Melcangi R.C. P0 gene expression is modulated by androgens in the sciatic nerve of adult male rats. *Mol. Brain Res.*, 70:36-44, 1999.

Melcangi R.C., Magnaghi V., Martini L. Steroid metabolism and effects in central and peripheral glial cells. *J. Neurobiol.*, 40:471-483, 1999.

Messi E., Galbiati M., Magnaghi V., Zucchi I., Martini L., Melcangi R.C. Transforming growth factor β 2 is able to modify mRNA levels and release of luteinizing hormone-releasing hormone in a immortalized hypothalamic cell line (GT1-1). *Neuroscience Lett.* 270:165-168, 1999.

Cavarretta I., Magnaghi V., Ferraboschi P., Martini L., Melcangi R.C. Interactions between type 1 astrocytes and LHRH-secreting neurons (GT1-1 cells): modification of steroid metabolism and possible role of TGF β 1. *J. Steroid Biochem. Mol. Biol.* 71:41-47, 1999.

Martini L., Melcangi R.C. Effects of steroid hormones on myelin proteins of the peripheral nervous system. *J. Endocrinol. Invest.* 22:7-9, 1999.

Melcangi R.C., Magnaghi V., Martini L. Aging in peripheral nerves: regulation of myelin protein genes by steroid hormones. *Prog. Neurobiol.* 60:291-308, 2000.

Casulari L.A., Melcangi R.C., Piva F., Martini L., Maggi R. Factors released by rat type 1 astrocytes exert different effects on the proliferation of human neuroblastoma cells (SH-SY5Y) in vitro. *Endocrine-related Cancer*, 7:63-71, 2000.

Magnaghi V., Riva M.A., Cavarretta I., Martini L., Melcangi R.C. Corticosteroids regulate the gene expression of FGF-1 and FGF-2 in cultured rat astrocytes. *J. Mol. Neurosci.*, 15:11-18, 2000.

Melcangi R.C., Magnaghi V., Galbiati M., Ghelarducci B., Sebastiani L., Martini L. The action of steroid hormones on peripheral myelin proteins: a possible new tool for the rebuilding of myelin? *J. Neurocytol.*, 29:327-339, 2000.

Petroni A., Papini N., Blasevich M., Magnaghi V., Cavarretta I., Galli C., Melcangi R.C. Testosterone metabolites in patients reduce the levels of very long chain fatty acids accumulated in X-adrenoleukodystrophic fibroblasts. *Neurosci. Lett.*, 289:139-142, 2000.

Melcangi R.C., Cavarretta I., Magnaghi V., Ciusani E., Salmaggi A. Corticosteroids protect oligodendrocytes from cytokine-induced cell death. *NeuroReport*, 11:3969-3972, 2000.

Galbiati M., Magnaghi V., Martini L., Melcangi R.C. Hypothalamic transforming growth factor α 1 and basic fibroblast growth factor mRNA expression is modified during the rat oestrus cycle. *J. Neuroendocrinol.* 13:483-489, 2001.

Melcangi R.C., Magnaghi V., Galbiati M., Martini L. Steroid effects on the gene expression of peripheral myelin proteins. *Hormones and Behavior*, 40:210-214, 2001.

Melcangi R.C., Magnaghi V., Galbiati M., Martini L. Glial cells: a target for steroid hormones. *Progress in Brain Research*, 132:31-40, 2001.

Melcangi R.C., Magnaghi V., Galbiati M., Martini L. Formation and effects of neuroactive steroids in the central and peripheral nervous system. *International Review of Neurobiology*, 46: 145-175, 2001.

Melcangi R.C., Panzica G. Steroids in nervous system: a Pandora's box? *TINS* 24: 311-312, 2001.

Melcangi R.C., Panzica G. Editorial-Introduction. *Brain Res. Rev.* 37:1-2, 2001.

Melcangi R.C., Cavarretta I., Magnaghi V., Martini L., Galbiati M. Interactions between growth factors and steroids in the control of LHRH-secreting neurons. *Brain Res. Rev.* 37:223-234, 2001

Magnaghi V., Cavarretta I., Galbiati M., Martini L., Melcangi R.C. Neuroactive steroids and peripheral myelin proteins. *Brain Res. Rev.* 37:360-371, 2001.

Molteni R., Fumagalli F., Magnaghi V., Roceri M., Gennarelli M., Racagni G., Melcangi R.C., Riva M.A. Modulation of fibroblast growth factor-2 by stress and corticosteroids: from developmental events to adult brain plasticity. *Brain Res. Rev.* 37:249-258, 2001.

Melcangi R.C., Martini L., Galbiati M. Growth factors and steroid hormones: a complex interplay in the hypothalamic control of reproductive functions. *Prog. Neurobiol.* 67:421-449, 2002.

Magnaghi V., Veber D., Morabito A., Buccellato F.R., Melcangi R.C., Scalabrino G. Decreased GFAP-mRNA expression in spinal cord of cobalamin-deficient rats. *FASEB J.* 16:1820-1822, 2002.

Galbiati M., Martini L., Melcangi R.C. Oestrogens, via transforming growth factor α , modulate basic fibroblast growth factor synthesis in hypothalamic astrocytes: in vitro observations. *J. Neuroendocrinol.* 14:829-835, 2002.

Azcoitia I., Leonelli E., Magnaghi V., Veiga S., Garcia-Segura L.M., Melcangi R.C. Progesterone and its derivatives dihydroprogesterone and tetrahydroprogesterone reduce myelin fiber morphological abnormalities and myelin fiber loss in the sciatic nerve of aged rats. *Neurobiol Aging* 24:853-860, 2003.

Melcangi R.C., Leonelli E., Magnaghi V., Gherardi G., Nobbio L., Schenone A. Mifepristone (RU 38486) influences expression of glycoprotein P0 and morphological parameters at the level of rat sciatic nerve: in vivo observations. *Exp. Neurol.* 184: 930-938, 2003.

Melcangi R.C., Ballabio M., Cavarretta I., Gonzalez L.C., Leonelli E., Veiga S., Martini L., Magnaghi V.

Effects of neuroactive steroids on myelin of peripheral nervous system. *J. Steroid Biochem. Mol. Biol.* 85:323-327, 2003.

Martini L., Magnaghi V., Melcangi R.C. Actions of progesterone and its 5 α -reduced metabolites on the major proteins of the myelin of the peripheral nervous system. *Steroids*, 68:825-829, 2003.

Galbiati M., Martini L., Melcangi R.C. Role of glial cells, growth factors and steroid hormones in the control of LHRH-secreting neurons. *Domest. Anim. Endocrinol.* 25:101-108, 2003.

Melcangi R.C. Editorial-Introduction. *Prog. Neurobiol.* 71:1-2, 2003.

Schumacher M., Weill-Engerer S., Liere P., Robert F., Franklin R.J., Garcia-Segura L.M., Lambert J.J., Mayo W., Melcangi R.C., Parducz A., Suter U., Carelli C., Baulieu E.E., Akwa Y. Steroid hormones and neurosteroids in normal and pathological aging of the nervous system. *Prog. Neurobiol.* 71:3-29, 2003.

Garcia-Segura L.M., Veiga S., Sierra A., Melcangi R.C., Azcoitia I. Aromatase: a neuroprotective enzyme. *Prog. Neurobiol.* 71:31-41, 2003.

Ibanez C., Shields S.A., El-Etr M., Leonelli E., Magnaghi V., Li W.W., Sim F.J., Baulieu E.E., Melcangi R.C., Schumacher M., Franklin R.J. Steroids and the reversal of age-associated changes in myelination and remyelination. *Prog. Neurobiol.* 71:49-56, 2003.

Melcangi R.C., Azcoitia I., Ballabio M., Cavarretta I., Gonzalez L.C., Leonelli E., Magnaghi V., Veiga S., Garcia-Segura L.M. Neuroactive steroids influence peripheral myelination: a promising opportunity for preventing or treating age-dependent dysfunctions of peripheral nerves. *Prog. Neurobiol.* 71:57-66, 2003.

Melcangi R.C., Panzica G. Introduction- Steroid and the nervous system. *Ann. N.Y. Acad. Sci.* 1007:1-5, 2003.

Galbiati M., Saredi S., Melcangi R.C. Steroid hormones and growth factors act in an integrated manner at the levels of hypothalamic astrocytes. A role in the neuroendocrine control of reproduction. *Ann. N.Y. Acad. Sci.* 1007:162-168, 2003.

Giachino C., Galbiati M., Fasolo A., Peretto P., Melcangi R.C. Neurogenesis in the subependymal layer of the adult rat: A role of neuroactive derivatives of progesterone. *Ann. N.Y. Acad. Sci.* 1007:335-339, 2003.

Melcangi R.C., Galbiati M. Testosterone metabolism and its effects on glial cells of the central nervous system. In: *Hormone replacement therapy and the brain.* A.R. Genazzani (Ed.) pp. 72-78. The Parthenon Publishing Group 2003.

Giachino C., Galbiati M., Fasolo A., Peretto P., Melcangi R.C. Effects of progesterone derivatives, dihydroprogesterone and tetrahydroprogesterone, on the subependymal layer of the adult rat. *J. Neurobiol.* 58:493-502, 2004.

Magnaghi V., Ballabio M., Cavarretta I.T.R., Froestl W., Lambert J.J., Zucchi I., Melcangi R.C. GABA-B receptors in Schwann cells influence proliferation and myelin protein expression. *European J. Neurosci.* 19:2641-2649, 2004.

Magnaghi V., Ballabio M., Gonzalez L.C., Leonelli E., Motta M., Melcangi R.C. The synthesis of glycoprotein P0 and peripheral myelin protein 22 in sciatic nerve of male rats is modulated by testosterone metabolites. *Mol. Brain Res.* 126:67-73, 2004.

Cavarretta I.T.R., Martini L., Motta M., Smith C.L., Melcangi R.C. SRC-1 is involved in the control of the gene expression of myelin protein P0. *J. Mol. Neurosci.* 24:217-226, 2004.

Magnaghi V., Melcangi R.C. Role of neuroactive steroids in glial cells of the central and peripheral nervous system. *Recent Res. Devel. Neurosci* 1: 81-102, 2004.

Veiga S., Melcangi R.C., DonCarlos L.L., Garcia-Segura L.M., Azcoitia I. Sex hormones and brain aging. *Exp. Gerontol.* 39:1623-1631, 2004.

Melcangi, R.C., Azcoitia, I., Galbiati, M., Magnaghi, V., Garcia-Ovejero, D., Garcia-Segura, L.M., Non-neuronal cells in the nervous system: sources and targets of neuroactive steroids. *Advances in Molecular and Cell Biology* 31: 535-559, 2004.

Schumacher, M., Ibanez, C., Robert, F., Garcia-Segura, L.M., Franklin, R., Melcangi, R. Aging white matter and cognitive decline : a role for steroids. In: Endocrine aspects of successful aging. P. Chanson, J. Epelbaum, S. Lamberts & Y. Christen (Eds), pp 101-127, Springer-Verlag Berlin Heidelberg 2004.

Melcangi R.C., Cavarretta I.T., Ballabio M., Leonelli E., Schenone A., Azcoitia I., Garcia-Segura L.M., Magnaghi V. Peripheral nerves: a target for the action of neuroactive steroids. *Brain Res. Rev.* 48:328-338, 2005.

Garcia-Ovejero D., Azcoitia I., DonCarlos L.L., Melcangi R.C., Garcia-Segura L.M. Glia-neuron crosstalk in the neuroprotective mechanisms of sex steroid hormones. *Brain Res. Rev.* 48:273-286, 2005.

Leonelli E. Yague J.G., Ballabio M., Azcoitia I., Schumacher M., Garcia-Segura L.M., Melcangi R.C. Ro5-4864, a synthetic ligand of peripheral benzodiazepine receptor, reduces aging-associated myelin degeneration in the sciatic nerve of male rats. *Mech. Ageing Dev.* 126:1159-1163, 2005.

Saredi S., Patte-Mensah C, Melcangi R.C., Mensah-Nyagan A.G. Effect of streptozotocin-induced diabetes on the gene expression and biological activity of 3 beta-hydroxysteroid dehydrogenase in the rat spinal cord. *Neuroscience*, 135:869-877, 2005.

Galbiati M., Saredi S., Romano' N., Martini L., Motta M., Melcangi R.C. Smad proteins are targets of transforming growth factor $\beta 1$ in immortalised gonadotrophin-releasing hormone releasing neurones. *J. Neuroendocrinol.* 17:753-760, 2005.

Veiga S., Leonelli E., Beelke M., Garcia-Segura L.M., Melcangi R.C. Neuroactive steroids prevent peripheral myelin alterations induced by diabetes. *Neurosci. Lett.* 402:150-153, 2006.

Melcangi R.C., Mensah-Nyagan A.G. Neuroprotective effects of neuroactive steroids in the spinal cord and peripheral nerves. *J. Mol. Neurosci.* 28:1-2, 2006.

Leonelli E., Ballabio M., Consoli A., Roglio I., Magnaghi V., Melcangi R.C. Neuroactive steroids: a therapeutic approach to maintain peripheral nerve integrity during neurodegenerative events. *J. Mol. Neurosci.* 28:65-76, 2006.

Magnaghi V., Ballabio M., Consoli A., Lambert J.J., Roglio I., Melcangi R.C. GABA receptor-mediated effects in the peripheral nervous system: a cross-interaction with neuroactive steroids. *J. Mol. Neurosci.* 28:89-102, 2006.

Magnaghi V., Veiga S., Ballabio M., Gonzalez L.C. Garcia-Segura L.M., Melcangi R.C. Sex-dimorphic effects of progesterone and its reduced metabolites on gene expression of myelin proteins by rat Schwann cells. *J. Peripher. Nerv. Syst.* 11:112-119, 2006.

Melcangi R.C., Panzica G. Neuroactive steroids: old players in a new game. *Neuroscience* 138:733-739, 2006.

Melcangi R.C., Garcia-Segura L.M. Therapeutic approaches to peripheral neuropathy based on neuroactive steroids. *Expert Rev. Neurother.* 6:1121-1125, 2006.

Garcia-Segura L.M., Melcangi R.C. Steroids and glial function. *Glia* 54:485-498, 2006.

Brambilla P., Riva M.A., Melcangi R.C., Diwadkar V.A. The role of glutamatergic pathways in schizophrenia: from animal models to human imaging studies. *Clin. Neuropsych.* 4:5-6, 2007.

Leonelli E., Bianchi R., Cavaletti G., Caruso D., Crippa D., Garcia-Segura L.M., Lauria G., Magnaghi V., Roglio I., Melcangi R.C. Progesterone and its derivatives are neuroprotective agents in experimental diabetic neuropathy: a multimodal analysis. *Neuroscience* 144:1293-1304, 2007.

Magnaghi V., Ballabio M., Roglio I., Melcangi R.C. Progesterone derivatives increase expression of Krox-20 and Sox-10 in rat Schwann cells. *J. Mol. Neurosci.* 31:149-157, 2007.

Roglio I., Bianchi R., Giatti S., Cavaletti G., Caruso D., Scurati S., Crippa D., Garcia-Segura L.M., Camozzi F., Lauria G., Melcangi R.C. Testosterone derivatives are neuroprotective agents in experimental diabetic neuropathy. *Cell. Mol. Life Sci.* , 64:1158-1168, 2007.

Caruso D., Scurati S., Maschi O., De Angelis L., Roglio I., Giatti S., Garcia-Segura L.M., Melcangi R.C. Evaluation of neuroactive steroid levels by liquid chromatography-tandem mass spectrometry in central and peripheral nervous system: effect of diabetes. *Neurochem Intern.* 52: 560-568, 2008.

Mensah-Nyagan AG, Saredi S, Schaeffer V, Kibaly C, Meyer L, Melcangi RC, Patte-Mensah C. Assessment of neuroactive steroid formation in diabetic rat spinal cord using high-performance liquid chromatography and continuous flow scintillation detection. *Neurochem Int.* 52:554-559, 2008

Melcangi R.C., Garcia-Segura L.M., Mensah-Nyagan A.G. Neuroactive steroids: State of the art and new perspectives. *Cell. Mol. Life Sci.* 65:777-797, 2008.

Melcangi R.C., Mensah-Nyagan A.G. Neurosteroids: Measurement and pathophysiologic relevance. *Neurochem Int.* 52: 503-505, 2008.

Caruso D., Scurati S., Roglio I., Nobbio L., Schenone A., Melcangi R.C. Neuroactive Steroid Levels in a Transgenic Rat Model of CMT1A Neuropathy. *J. Mol. Neurosci.* 34: 249-253, 2008.

Roglio I., Bianchi R., Gotti S., Scurati S., Giatti S., Pesaresi M., Caruso D., Panzica G.C., Melcangi R.C. Neuroprotective effects of dihydroprogesterone and progesterone in an experimental model of nerve crush injury. *Neuroscience* 155: 673-685, 2008.

Roglio I., Giatti S., Pesaresi M., Bianchi R., Cavaletti G., Lauria G., Garcia-Segura L.M., Melcangi R.C. Neuroactive steroids and peripheral neuropathy. *Brain Res. Rev.* 57:460-469, 2008.

Melcangi R.C., Garcia-Segura L.M. Steroid metabolism in glial cells. In. *Neuroactive Steroids in Brain Function, Behavioral and Neuropsychiatric Disorders: Novel Strategies for Research and Treatment.* M.S. Ritsner and A. Weizman (eds.), pag. 43-59, 2008.

Panzica G.C., Melcangi R.C. The endocrine nervous system: source and target for neuroactive steroids. *Brain Res. Rev.* 57: 271-276, 2008.

Melcangi R.C., Panzica G. Neuroactive steroids: an update of their role in central and peripheral nervous system. *Psychoneuroendocrinology* 34: S 1-8, 2009.

Roglio I., Bianchi R., Camozzi F., Carozzi V., Cervellini I., Crippa D., Lauria G., Cavaletti G., Melcangi R.C. Docetaxel-induced peripheral neuropathy: protective effects of dihydroprogesterone and progesterone in an experimental model. *J Peripher. Nerv. Syst.* 14:36-44, 2009.

Pesaresi M. Maschi O., Giatti S., Garcia-Segura L.M., Caruso D. Melcangi R.C. Sex differences in neuroactive steroid levels in the nervous system of diabetic and non-diabetic rats. *Hormones and Behavior*, 57:46-55, 2010.

Melcangi R.C, Garcia-Segura L.M. Sex-specific therapeutic strategies based on neuroactive steroids: In search for innovative tools for neuroprotection. *Hormones and Behavior*, 57:2-11, 2010

Biamonte F., Assenza G., Marino R., D'Amelio M., Panteri R., Caruso D., Scurati S., Yague J.G., Garcia-Segura L.M., Cesa R., Strata P., Melcangi R.C., Keller F. Interactions between neuroactive steroids and reelin haploinsufficiency in Purkinje cell survival. *Neurobiol. Dis.* 36:103-115, 2009

Giatti S., D'Intino G., Maschi O., Pesaresi M., Garcia-Segura L.M., Calza L., Caruso D., Melcangi R.C. Acute experimental autoimmune encephalomyelitis induces sex-dimorphic changes in neuroactive steroid levels. *Neurochem. Int.* 56:118-127, 2010

Giatti S., Pesaresi M., Cavaletti G., Bianchi R., Carozzi V., Lombardi R., Maschi O., Lauria G., Garcia-Segura L.M., Caruso D., Melcangi R.C. Neuroprotective effects of a ligand of translocator protein-18kDa (Ro5-4864) in experimental diabetic neuropathy. *Neuroscience* 164:520-529, 2009.

Chiorazzi A., Nicolini G., Canta A., Oggioni N., Rigolio R., Cossa G., Lombardi R., Roglio I., Cervellini I., Lauria G., Melcangi R.C., Bianchi R., Crippa D., Cavaletti G. Experimental epothilone B neurotoxicity: results of in vitro and in vivo studies. *Neurobiol Dis.* 35: 270-277, 2009.

Nobbio L., Fiorese F., Vigo T., Cilli M., Gherardi G., Grandis M., Melcangi R.C., Mancardi G., Abbruzzese M., Schenone A. Impaired expression of ciliary neurotrophic factor in Charcot-Marie-Tooth type 1A neuropathy. *J. Neuropathol. Exp. Neurol.* 68:441-455, 2009.

Cervellini I., Bello E., Frappoli R., Porretta-Serapiglia C., Oggioni N., Canta A., Lombardi R., Camozzi F., Roglio I., Melcangi R.C., D'Incalci M., Lauria G., Ghezzi P., Cavaletti G., Bianchi R. The neuroprotective effect of erythropoietin in docetaxel-induced peripheral neuropathy causes no reduction of antitumor activity in 13762 adenocarcinoma-bearing rats. *Neurotox. Res.* 18:151-160, 2010.

Melcangi R.C., Garcia-Segura L.M. Glial steroid metabolism. In: *Encyclopedia of Neuroscience*. pp 871-876, 2010.

Pesaresi M., Giatti S., Calabrese D., Maschi O., Caruso D., Melcangi R.C. Dihydroprogesterone increases the gene expression of myelin basic protein in spinal cord of diabetic rats. *J. Mol. Neurosci.* 42:135-139, 2010.

Caruso D., D'Intino G., Giatti S., Maschi O., Pesaresi M., Calabrese D., Garcia-Segura L.M., Calza L., Melcangi R.C. Sex-dimorphic changes in neuroactive steroid levels after chronic experimental autoimmune encephalomyelitis. *J. Neurochem* 114:921-932, 2010.

Caruso D., Pesaresi M., Maschi O., Giatti S., Garcia-Segura L.M., Melcangi R.C. Effect of short-and long term gonadectomy on neuroactive steroid levels in the central and peripheral nervous system of male and female rats. *J. Neuroendocrinol.* 22:1137-1147, 2010.

Cermenati G., Giatti S., Cavaletti G., Bianchi R., Maschi O., Pesaresi M., Abbiati F., Volonterio A., Saez E., Caruso D., Melcangi R.C., Mitro N. Activation of the liver X receptor increases neuroactive steroid levels and protects from diabetes-induced peripheral neuropathy. *J. Neurosci.* 30:11896-11901, 2010.

Pesaresi M., Giatti S., Cavaletti G., Abbiati F., Calabrese D., Bianchi R., Caruso D., Garcia-Segura L.M., Melcangi R.C. Sex differences in the manifestation of peripheral diabetic neuropathy in gonadectomized rats: A correlation with the levels of neuroactive steroids in the sciatic nerve. *Exp Neurol* 228:215-221, 2011.

Melcangi R.C., Giatti S., Pesaresi M., Caruso D., Tetel M.J. Neuroactive steroids and peripheral neuropathy. In: *Hormones in Neurodegeneration, Neuroprotection and Neurogenesis*, pp 121-135, 2011.

Melcangi R.C., Panzica G., Garcia-Segura L.M. Neuroactive steroids: focus on human brain. *Neuroscience* 191:1-5, 2011.

Melcangi R.C., Giatti S., Pesaresi M., Calabrese D., Mitro N., Caruso D., Garcia-Segura L.M. Role of neuroactive steroids in the peripheral nervous system. *Frontiers in Endocrinology*, 2: 104, 2011.

Melcangi R.C., Garcia-Segura L.M. Sex differences in the injured brain. *Horm. Mol. Biol. Clin. Invest.* 7:385-391, 2011.

Melcangi R.C., Caruso D., Levands G., Abbiati F., Armentero M.T., Blandini F. Modifications of neuroactive steroid levels in an experimental model of nigrostriatal degeneration: Potential relevance to the pathophysiology of Parkinson's disease. *J. Mol. Neurosci.* 46:117-183, 2012.

Panzica G.C., Balthazart J., Frye C.A., Garcia-Segura L.M., Herbison A.E., Mensah-Nyagan A.G., McCarthy M.M., Melcangi R.C. Milestones on steroids and the nervous system: 10 years of basic and translational research. *J. Neuroendocrinol.* 24:1-15, 2012.

Giatti S., Boraso M., Melcangi R.C., Viviani B. Neuroactive steroids, their metabolites and neuroinflammation. *J. Mol. Endocrinol.* 49:R125-134, 2012.

Pesaresi M., Giatti S., Cavaletti G., Abbiati F., Calabrese D., Lombardi R., Bianchi R., Lauria G., Caruso D., Garcia-Segura L.M., Melcangi R.C. Sex-dimorphic effects of dehydroepiandrosterone in diabetic neuropathy. *Neuroscience*, 199:401-409, 2011.

Ginanneschi F., Milani P., Filippou G., Mondelli M., Frediani B., Melcangi R.C., Rossi A. Evidences for antinociceptive of 17-alpha-hydroxyprogesterone caproate in carpal tunnel syndrome. *J. Mol. Neurosci.* 47:59-66, 2012

Cermenati G., Abbiati F., Cermenati S., Brioschi E., Volonterio A., Cavaletti G., Saez E., De Fabiani E., Crestani M., Garcia-Segura L.M., Melcangi R.C., Caruso D., Mitro N. Diabetes-induced myelin abnormalities are associated with an altered lipid pattern: protective effects of LXR activation. *J. Lipid Res.* 53:300-310, 2012.

Massella A., D'Intino G., Fernandez M., Sivilia S., Lorenzini L., Giatti S., Melcangi R.C., Calza L., Giardino L. Gender effect on neurodegeneration and myelin markers in an animal model for multiple sclerosis. *BMC Neurosci.* 13:12, 2012.

Giatti S., Caruso D., Boraso M., Abbiati F., Ballarini E., Calabrese D., Pesaresi M., Rigolio R., Santos-Galindo M., Viviani B., Cavaletti G., Garcia-Segura L.M., Melcangi R.C. Neuroprotective effects of progesterone in chronic experimental autoimmune encephalomyelitis. *J. Neuroendocrinol.* 24: 851-861, 2012

Mitro N., Cermenati G., Giatti S., Abbiati F., Pesaresi M., Calabrese D., Garcia-Segura L.M., Caruso D., Melcangi R.C. LXR and TSPO as new therapeutic targets to increase the levels of neuroactive steroids in the central nervous system of diabetic animals. *Neurochem. Int.* 60:616-621, 2012

Giatti S., Boraso M., Abbiati F., Ballarini E., Calabrese D., Santos-Galindo M., Rigolio R., Pesaresi M., Caruso D., Viviani B., Cavaletti G., Garcia-Segura L.M., Melcangi R.C. Multimodal analysis in acute and chronic experimental autoimmune encephalomyelitis. *J. Neuroimmune Pharmacol.* 8: 238-250, 2013.

Barron A.M., Garcia-Segura L.M., Caruso D., Jayaraman A., Lee J-W., Melcangi R.C., Pike C. Ligand for translocator protein reverses pathology in a mouse model of Alzheimer's disease. *J. Neurosci.* 33:8891-8897, 2013.

Caruso D., Barron A.M., Brown M.A., Abbiati F., Carrero P., Pike C.J., Garcia-Segura L.M., Melcangi R.C. Age-related changes in neuroactive steroid levels in 3xTg-AD mice- *Neurobiol Aging* 34:1080-1089, 2013

Caruso D., Pesaresi M., Abbiati F., Calabrese D., Giatti S., Garcia-Segura L.M., Melcangi R.C. Comparison of plasma and cerebrospinal fluid levels of neuroactive steroids with their brain, spinal cord and peripheral nerve levels in male and female rats. *Psychoneuroendocrinology* 38:2278-2290, 2013.

Melcangi R.C., Caruso D., Abbiati F., Giatti S., Calabrese D., Piazza F., Cavaletti G. Neuroactive steroid levels are modified in cerebrospinal fluid and plasma of post-finasteride patients showing persistent sexual side effects and anxious/depressive symptomatology. *J. Sex. Med.* 10: 2598-2603, 2013.

Cermenati G., Brioschi E., Abbiati F., Melcangi R.C., Caruso D., Mitro N. Liver X receptors, nervous system and lipid metabolism. *J. Endocrinol. Invest.* 36:435-443, 2013.

Melcangi R.C., Panzica G.C. Neuroactive steroids and the nervous system: further observations on an incomplete tricky puzzle. *J. Neuroendocrinol* 25:957-963, 2013.

Allieri F., Spigolon G., Melcangi R.C., Collado P., Guillaumon A., Gotti S., Panzica G.C. Androgen receptor deficiency alters the arginine-vasopressin sexually dimorphic system in Tfm rats. *Neuroscience* 253:67-77, 2013.

Calabrese D., Giatti S., Romano S., Porretta C., Bianchi R., Milanese M., Bonanno G., Caruso D., Viviani B., Gardoni F., Garcia-Segura L.M., Melcangi R.C. Diabetic neuropathic pain: a role for testosterone metabolites. *J. Endocrinol* 221:1-13, 2014

Mitro N., Cermenati G., Brioschi E., Abbiati F., Audano M., Giatti S., Crestani M., De Fabiani E., Azcoitia I., Garcia-Segura L.M., Caruso D., Melcangi R.C. Neuroactive steroid treatment modulates myelin lipid profile in diabetic peripheral neuropathy. *J Steroid Biochem Mol Biol* 143C:115-121, 2014.

Melcangi R.C., Giatti S., Calabrese D., Pesaresi M., Cermenati G., Mitro N., Viviani B., Garcia-Segura L.M., Caruso D. Levels and actions of progesterone and its metabolites in the nervous system during physiological and pathological conditions. *Prog Neurobiol* 113:56-69, 2014.

Melcangi R.C., Panzica G.C. Allopregnanolone: state of the art. *Prog Neurobiol* 113:1-5, 2014.

Caruso D., Abbiati F., Giatti S., Romano S., Fusco L., Cavaletti G., Melcangi R.C. Patients treated for male pattern hair with finasteride show, after discontinuation of the drug, altered levels of neuroactive steroids in cerebrospinal fluid and plasma. *J Steroid Biochem Mol Biol* 146:74-79, 2015

Caruso D., Melis M., Fenu G., Giatti S., Romano S., Grimoldi M., Crippa D., Marrosu M.G., Cavaletti G., Melcangi R.C. Neuroactive steroid levels in plasma and cerebrospinal fluid of male multiple sclerosis patients. *J Neurochem* 130:591-597, 2014.

Giatti S., Rigolio R., Romano S., Mitro N., Viviani B., Cavaletti G., Caruso D., Garcia-Segura L.M., Melcangi R.C. Dihydrotestosterone as a protective agent in chronic experimental autoimmune encephalomyelitis.

Neuroendocrinology 101:296-308, 2015.

Lopez-Rodriguez A.B., Acaz-Fonseca E., Giatti S., Caruso D., Viveros M.P., Melcangi R.C., Garcia-Segura L.M. Correlation of brain levels of progesterone and dehydroepiandrosterone with neurological recovery after traumatic brain injury in female mice. *Psychoneuroendocrinology*, 56:1-11, 2015.

Cermenati G., Audano M., Giatti S., Carozzi V., Poretta-Serapiglia C., Pettinato E., Ferri C., D'Antonio M., De Fabiani E., Crestani M., Scurati S., Saez E., Azcoitia I., Cavaletti G., Garcia-Segura L.M., Melcangi R.C., Caruso D., Mitro N. Lack of sterol regulatory element binding factor-1c imposes glial Fatty Acid utilization leading to peripheral neuropathy. *Cell Metab* 21:571-583, 2015.

Yin F., Yao J., Sanchetti H., Feng T., Melcangi R.C., Morgan T.E., Finch C.E., Pike C.J., Mack W.J., Cadenas E., Brinton R.D. The perimenopausal aging transition in the female rat brain: decline in bioenergetic systems and synaptic plasticity. *Neurobiol Aging* 36:2282-2295, 2015.

Cermenati G., Mitro N., Audano M., Melcangi R.C., Crestani M., De Fabiani E., Caruso D. Lipids in the nervous system: from biochemistry and molecular biology to patho-physiology. *Biochim Biophys Acta* 185:51-60, 2015.

Mitro N., Cermenati G., Audano M., Giatti S., D'Antonio M., De Fabiani E., Crestani M., Saez E., Azcoitia I., Cavaletti G., Garcia-Segura L.M., Melcangi R.C., Caruso D. The lipogenic regulator Sterol Regulatory Element Binding Factor-1c is required to maintain peripheral nerve structure and function. *SpringerPlus* 4:L45:1-32, 2015.

Giatti S., Garcia-Segura L.M., Melcangi R.C. New steps forward in the neuroactive steroid field. *J Steroid Biochem Mol Biol* 153:127-134, 2015.

Giatti S., Romano S., Pesaresi M., Cermenati G., Mitro N., Caruso D., Tetel M.J., Garcia-Segura L.M., Melcangi R.C. Neuroactive steroids and the peripheral nervous system: an update. *Steroids* 103:23-30, 2015.

Traish A.M., Melcangi R.C., Bortolato M., Garcia-Segura L.M., Zitzmann M. Adverse effects of 5 α -reductase inhibitors: what do we know, don't know, and need to know? *Rev Endocr Metab Disord* 16:177-198, 2015.

Bourque M., Morissette M., Al Sweidi S., Caruso D., Melcangi R.C., Di Paolo T. Neuroprotective effect of progesterone in MPTP-treated male mice. *Neuroendocrinology* 103:300-314, 2016.

Melcangi R.C., Panzica G. Editorial. *J Steroid Biochem Mol Biol* 160:1, 2016.

Giatti S., Melcangi R.C. Neuroactive steroids and neuroinflammation. In: *Translational neuroimmunology in multiple sclerosis: from disease mechanisms to clinical application*. Edited by R. Aron & A. Miller. Elsevier. pp. 149-160, 2016.

Giatti S., Foglio B., Romano S., Pesaresi M., Panzica G., Garcia-Segura L.M., Caruso D., Melcangi R.C. Effects of subchronic finasteride treatment and withdrawal on neuroactive steroid levels and their receptors in the male brain. *Neuroendocrinology* 103:746-757, 2016.

Lopez-Rodriguez A.B., Acaz-Fonseca E., Spezzano R., Giatti S., Caruso D., Viveros M.P., Melcangi R.C., Garcia-Segura L.M. Profiling neuroactive steroid levels after traumatic brain injury in male mice. *Endocrinology* 157:3983-3993, 2016.

Ruiz-Palmero I., Ortiz-Rodriguez A., Melcangi R.C., Caruso D., Garcia-Segura L.M., Rune G.M., Arevalo M.A. Oestradiol synthesized by female neurons generates sex differences in neuritogenesis. *Sci Rep* 6:31891, 2016.

Melcangi R.C., Panzica G. Gender influence on neurodegenerative and psychiatric disorders. *Neurosci Biobehav Rev* 67:1, 2016.

Panzica G., Melcangi R.C. Structural and molecular brain sexual differences: A tool to understand sex differences in health and disease. *Neurosci Biobehav Rev* 67:2-8, 2016.

Melcangi R.C., Giatti S., Garcia-Segura L.M. Levels and actions of neuroactive steroids in the nervous system under physiological and pathological conditions: sex-specific features. *Neurosci Biobehav Rev* 67:25-40, 2016.

Porcu P., Barron A.M., Frye C.A., Walf A.A., Yang S.Y., He X.Y., Morrow A.L., Panzica G.C., Melcangi R.C. Neurosteroidogenesis today: novel targets for neuroactive steroid synthesis and action and their relevance for translational research. *J Neuroendocrinol* 28:12351, 2016.

Giatti S., Melcangi R.C., Pesaresi M. The other side of progestins: effects in the brain. *J Mol Endocrinol* 57: R109-126, 2016.

Romano S., Mitro N., Diviccaro S., Spezzano R., Audano M., Garcia-Segura L.M., Caruso D., Melcangi R.C. Short-term effects of diabetes on neurosteroidogenesis in the rat hippocampus. *J Steroid Biochem Mol Biol* 167:135-143, 2017.

Buccarello L., Grignaschi G., Castaldo A.M., Di Giancamillo A., Domeneghini C., Melcangi R.C., Borsello T. Sex impact on tau-aggregation and postsynaptic protein levels in the P301L mouse model of tauopathy. *J Alzheimers Dis* 56:1279-1292, 2017.

Cermenati G., Giatti S., Audano M., Pesaresi M., Spezzano R., Caruso D., Mitro N., Melcangi R.C. Diabetes alters myelin lipid profile in rat cerebral cortex: protective effects of dihydroprogesterone. *J Steroid Biochem Mol Biol* 168:60-70, 2017.

Melcangi R.C., Santi D., Spezzano R., Grimoldi M., Tabacchi T., Fusco M.L., Diviccaro S., Giatti S., Carrà G., Caruso D., Simoni M., Cavaletti G. Neuroactive steroid levels and psychiatric and andrological features in post-finasteride patients, *J Steroid Biochem Mol Biol* 171:229-235, 2017.

Buccarello L., Grignaschi G., Di Giancamillo A., Domeneghini C., Melcangi R.C., Borsello T. Neuroprotective effects of low fat-protein diet in the P310L mouse model of tauopathy. *Neuroscience* 354:208-220, 2017.

Mitro N., Cermenati G., Audano M., Giatti S., Pesaresi M., Pedretti S., Spezzano R., Caruso D., Melcangi R.C. Sterol regulatory element binding protein-1C knockout mice show altered neuroactive steroid levels in sciatic nerve. *J Neurochem* 142:420-428, 2017.

Giatti S., Mastrangelo R., D'Antonio M., Pesaresi M., Romano S., Diviccaro S., Caruso D., Mitro N., Melcangi R.C. Neuroactive steroids and diabetic complications in the nervous system. *Front Neuroendocrinol* 48:58-69, 2018.

Litim N., Morissette M., Caruso D., Melcangi R.C., Di Paolo T., Effect of the 5 α -reductase enzyme inhibitor dutasteride in the brain of intact and parkinsonian mice. *J Steroid Biochem Mol Biol* 174:242-256, 2017.

Tetel M.J., de Vries G.J., Melcangi R.C., Panzica G., O'Mahony S.M. Steroids, stress and the gut microbiome-brain axis. *J Neuroendocrinol* 2018, doi: 10.1111/jne.12548.

Melcangi R.C., Panzica G.C. Neuroactive steroids and metabolic axis. *Front Neuroendocrinol* 48:1-2, 2018.

Romano S., Mitro N., Giatti S., Diviccaro S., Pesaresi M., Spezzano R., Audano M., Garcia-Segura L.M., Caruso D., Melcangi R.C. Diabetes induces mitochondrial dysfunction and alters cholesterol homeostasis and neurosteroidogenesis in rat cerebral cortex. *J Steroid Biochem Mol Biol* 178:108-116, 2018.

Pesaresi M., Giatti S., Spezzano R., Romano S., Diviccaro S., Borsello T., Mitro N., Caruso D., Garcia-Segura L.M., Melcangi R.C. Axonal transport in a peripheral diabetic neuropathy model: sex-dimorphic features. *Biol Sex Differ* 9:6, 2018.

Panzica G.C., Melcangi R.C. New perspectives for the action of steroids in the brain. *J Neuroendocrinol* 2018, doi: 10.1111/jne.12576.

Giatti S., Diviccaro S., Panzica G., Melcangi R.C. Post-finasteride syndrome and post-SSRI sexual dysfunction: two sides of the same coin? *Endocrine* 61:180-193, 2018.

Giatti S., Garcia-Segura L.M., Barreto G.E., Melcangi R.C. Neuroactive steroids, neurosteroidogenesis and sex. *Prog Neurobiol* 176:1-17, 2019.

Giatti S., Diviccaro S., Melcangi R.C. Neuroactive steroids and sex-dimorphic nervous damage induced by diabetes mellitus. *Cell Mol Neurobiol* 39:493-502, 2019.

Diviccaro S., Giatti S., Borgo F., Barcella M., Borghi E., Trejo J.L., Garcia-Segura L.M., Melcangi R.C. Treatment of male rats with finasteride, an inhibitor of 5 α -reductase enzyme, induces long-lasting effects on depressive-like behavior, hippocampal neurogenesis, neuroinflammation and gut microbiota

composition. *Psychoneuroendocrinology* 99: 206-215, 2019.

Giatti S., Diviccaro S., Garcia-Segura L.M., Melcangi R.C. Sex differences in the brain expression of steroidogenic molecules under basal conditions and after gonadectomy. *J Neuroendocrinol* 31:e12736, 2019.

Melcangi R.C., Casarini L., Marino M., Santi D., Sperduti S., Giatti S., Diviccaro S., Grimoldi M., Caruso D., Cavaletti G., Simoni M. Altered methylation pattern of the SRD5A2 gene in the cerebrospinal fluid of post-finasteride patients: a pilot study. *Endocr Connect* 8:1118-1125, 2019.

Hidalgo-Lanussa O., Baez-Jurado E., Echeverria V., Ashraf G.M., Sahebkar A., Garcia-Segura L.M., Melcangi R.C., Barreto G.E. Lipotoxicity, neuroinflammation, glial cells and oestrogenic compounds. *J Neuroendocrinol* 2019, doi: 10.1111/jne.12776.

Giatti S., Diviccaro S., Serafini M.M., Caruso D., Garcia-Segura L.M., Viviani B., Melcangi R.C. Sex differences in steroid levels and steroidogenesis in the nervous system: Physiopathological role. *Front Neuroendocrinol*. 56:100804, 2020.

Panzica G., Melcangi R.C. Neuroactive steroids and the new decade. *J. Neuroendocrinol*. 32:e12832, 2020.

Giatti S., Rigolio R., Diviccaro S., Falvo E., Caruso D., Garcia-Segura L.M., Cavaletti G., Melcangi R.C. Sex dimorphism in an animal model of multiple sclerosis: focus in pregnenolone synthesis. *J. Steroid Biochem. Mol. Biol.* 199:105596, 2020.

Giatti S., Diviccaro S., Falvo E., Garcia-Segura L.M. Melcangi R.C. Physiopathological role of the enzymatic complex 5 α -reductase and 3 α / α -hydroxysteroid oxidoreductase in the generation of progesterone and testosterone neuroactive metabolites. *Front. Neuroendocrinol*. 57:100836, 2020.

Diviccaro S., Melcangi R.C., Giatti S. Post-finasteride syndrome. an emerging clinical problem. *Neurobiol. Stress*, 12:100209, 2019.

Diviccaro S., Giatti S., Borgo F., Falvo E., Caruso D., Garcia-Segura L.M., Melcangi R.C. Steroidogenic machinery in the adult rat colon. *J Steroid Biochem Mol Biol* 203:105732, 2020.

Borgo F., Macandog A.D., Diviccaro S., Falvo E., Giatti S., Cavaletti G., Melcangi R.C. Alterations of gut microbiota composition in post-finasteride patients: a pilot study. *J Endocrinol Invest* 44:1263-1273, 2021.

Falvo E., Diviccaro S., Melcangi R.C., Giatti S. Physiopathological role of neuroactive steroids in the peripheral nervous system. *Int J Mol Sci* 21:9000, 2020.

Giatti S., Di Domizio A., Diviccaro S., Falvo E., Caruso D., Contini A., Melcangi R.C. Three-dimensional proteome-wide scale screening for the 5-alpha reductase inhibitor finasteride: identification of a novel off-target. *J Med Chem* 64:4553-4566, 2021.

Diviccaro S., Cioffi L., Falvo E., Giatti S., Melcangi R.C. Allopregnanolone: an overview on its synthesis and effects. *J Neuroendocrinol* 2021: e12996. doi: 10.1111/jne.12996. Online ahead of print.

Giatti S., Diviccaro S., Cioffi L., Falvo E., Caruso D., Melcangi R.C. Effects of paroxetine treatment and its withdrawal on neurosteroidogenesis. *Psychoneuroendocrinology* 132:105364, 2021.

Healy D., Bahrick A., Bak M., Barbato A., Calabrò R.S., Chubak B.M., Cosci F., Csoka A.B., D'Avanzo B., Diviccaro S., Giatti S., Goldstein I., Graf H., Hellstrom W.J.G., Irwig M.S., Jannini E.A., Janssen P.K.C., Khara M., Kumar M.T., Le Noury J., Lew-Starowicz M., Linden D.E.J., Lüning C., Mangin D., Melcangi R.C., Rodríguez O.W.M.A.A.S., Panicker J.N., Patacchini A., Pearlman A.M., Pukall C.F., Raj S., Reisman Y., Rubin R.S., Schreiber R., Shipko S., Vaščeková B., Waraich A. Diagnostic criteria for enduring sexual dysfunction after treatment with antidepressants, finasteride and isotretinoin. *Int J Risk Saf Med*. 33:65-76, 2022.

Diviccaro S., Caputi V., Cioffi L., Giatti S., Lyte J.M., Caruso D., O'Mahony S.M., Melcangi R.C. Exploring the impact of the microbiome on neuroactive steroid levels in germ-free animals. *Int J Mol Sci*. 22:12551, 2021.

Panzica G., Melcangi R.C. Neuroactive steroids: From basic research to clinical use. *J Neuroendocrinol*. 34:e13102, 2022.

Diviccaro S., FitzGerald J.A., Cioffi L., Falvo E., Crispie F., Cotter P.D., O'Mahony S.M., Giatti S., Caruso D., Melcangi R.C. Gut Steroids and Microbiota: Effect of Gonadectomy and Sex. *Biomolecules* 12(6), 767; 2022

<https://doi.org/10.3390/biom12060767>

Giatti S., Diviccaro S., Melcangi R.C. Key players in progesterone and testosterone action: the metabolizing enzymes. *Current Opinion in Endocrine and Metabolic Research*, April 2022, <https://doi.org/10.1016/j.coemr.2022.100319>

Melcangi R.C., Cioffi L., Diviccaro S., and Traish A.M. Synthesis and Actions of 5 α -Reduced Metabolites of Testosterone in the Nervous System. *Androgens: Clinical Research and Therapeutics*, published Online:23 Dec 2021. <https://doi.org/10.1089/andro.2021.0010>

Giatti S., Di Domizio A., Diviccaro S., Cioffi L., Marmorini I., Falvo E., Caruso D., Contini A., Melcangi R.C. Identification of a novel off-target of paroxetine: Possible role in sexual dysfunction induced by this SSRI antidepressant drug. *J. Mol. Structure* 1268:133690, 2022 <https://doi.org/10.1016/j.molstruc.2022.133690>

Melcangi R.C., Garcia-Segura L.M. Neurosteroids, towards a new era. *Current Opinion in Endocrine and Metabolic Research*, 25: i100369. 2022 <https://doi.org/10.1016/j.coemr.2022.100369>

Diviccaro S., Giatti S., Cioffi L., Falvo E., Piazza R., Caruso D., Melcangi R.C. Paroxetine effects in adult male rat colon: Focus on steroidogenesis and microbiota. *Psychoneuroendocrinology* 143: 105828, 2022 <https://doi.org/10.1016/j.psyneuen.2022.105828>

Diviccaro S., FitzGerald J.A., Cioffi L., Falvo E., Crispie F., Cotter P.D., O'Mahony S.M., Giatti S., Caruso D., Melcangi R.C. Gut steroids and microbiota: Effect of gonadectomy and sex. *Biomolecules* 12:767, 2022, doi: 10.3390/biom12060767

Diviccaro S., Giatti S., Cioffi L., Falvo E., Herian M., Caruso D., Melcangi R.C. Gut inflammation induced by finasteride withdrawal: therapeutic effect of allopregnanolone in adult male rats. *Biomolecules* 12:1167, 2022, doi: 10.3390/biom12111567

Diviccaro S., Falvo E., Piazza R., Cioffi L., Herian M., Brivio P., Calabrese F., Giatti S., Caruso D., Melcangi R.C. Gut microbiota composition is altered in a preclinical model of type 1 diabetes mellitus: influence on gut steroids, permeability and cognitive abilities. *Neuropharmacology* 226:109405, 2023.

Canta A., Carozzi V.A., Chiorazzi A., Meregalli C., Oggioni N., Rodriguez-Menendez V., Sala B., Melcangi R.C., Giatti S., Lombardi R., Bianchi R., Marmiroli P., Cavaletti G. Multimodal comparison of diabetic neuropathy in aged streptozotocin-treated sprague-dawley and zucker diabetic fatty rats. *Biomedicine* 11: 20, 2022.

Falvo E., Giatti S., Diviccaro S., Cioffi L., Herian M., Brivio P., Calabrese F., Caruso D., Melcangi R.C. Diabetic encephalopathy in a preclinical experimental model of type 1 diabetes mellitus: observations in adult female rats. *Int J Mol Sci.* 24:1196, 2023.

Corsi S., Scheggi S., Braccagni G., Caruso D., Cioffi L., Diviccaro S., Gentile M., Fanni S., Stancampino R., Gambarana C., Melcangi R.C., Frau R., Carta M. Pregnenolone for the treatment of L-DOPA-induced dyskinesia in Parkinson's disease. *Exp Neurol.* 363:114370, 2023.

Melcangi R.C. Editorial. *J. Neuroendocrinol.* 35:e13244, 2023.

Diviccaro S., Herian M., Cioffi L., Audano M., Mitro N., Caruso D., Giatti S., Melcangi R.C. Exploring rat corpus cavernosum alterations induced by finasteride treatment and withdrawal. *Andrology* 12:674-681, 2024

Diviccaro S., Cioffi L., Piazza R., Caruso D., Melcangi R.C., Giatti S. Neuroactive steroid-gut microbiota interaction in T2DM diabetic encephalopathy. *Biomolecules* 13:1325, 2023.

Giatti S., Diviccaro S., Cioffi L., Melcangi R.C. Post-finasteride syndrome and Post-SSRI sexual dysfunction. Two clinical conditions apparently distant, but very close. *Front. Neuroendocrinol.* 72:101114, 2024.

Giatti S., Cioffi L., Diviccaro S., Piazza R., Melcangi R.C. Analysis of the finasteride treatment and its withdrawal in the rat hypothalamus and hippocampus at whole-transcriptome level. *J Endocrinol Invest* 2024. doi: 10.1007/s40618-024-02345-y.

Cioffi L., Grassi D., Diviccaro S., Carus D., Pinto-Benito D., Arevalo M.A., Garcia-Segura L.M., Melcangi R.C. Sex chromosome complement interacts with gonadal hormones in determining regional-specific neuroactive steroid levels in plasma, hippocampus, and hypothalamus. A study using the four core genotype mouse model. *J Steroid Biochem Mol Biol* 241:106514, 2024

Melcangi R.C., Giatti S., Gotti S. Editorial- State of the art on steroids and nervous system: in memory of Giancarlo. *Front Neuroendocrinol* 73:101135, 2024

Cioffi L., Diviccaro S., Chrostek G., Caruso D., Garcia-Segura L.M., Melcangi R.C., Giatti S. Neuroactive steroids fluctuate with regional specificity in the central and peripheral nervous system across the rat estrous cycle. *J Steroid Biochem Mol Biol* 243:106590, 2024

Melcangi R.C. Role of neuroactive steroids in health and disease. *Biomolecules* 14:941, 2024

Bourque M., Morissette M., Isenbrandt A., Giatti S., Melcangi R.C., Carta M., Frau R., Bortolato M., Soulet D., Di Paolo T. Effect of 5-alpha reductase inhibitors in animal models of Parkinson's disease. *Front Neuroendocrinol* 75:101156, 2024

Giatti S., Cioffi L., Diviccaro S., Chrostek G., Piazza R., Melcangi R.C. Transcriptomic profile of the male rat hypothalamus and nucleus accumbens after paroxetine treatment and withdrawal: possible causes of sexual dysfunction. *Mol Neurobiol* 2024, doi: 10.1007/s12035-024-04592-9

Diviccaro S., Giatti S., Cioffi L., Chrostek G., Melcangi R.C. The gut-microbiota-brain axis: Focus on gut steroids. *J Neuroendocrinol* 2024, doi: 10.1111/jne.13471.
