


PERSONAL INFORMATIONS

MANUELA ZAVATTI



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 Department of Biomedical, Metabolic and Neural Sciences.
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Gender F | Date of birth 28th June 1977 | Nationality Italian

WORK EXPERIENCE

2008 to date

TECHNICAL ADMINISTRATIVE STAFF (CAT. D/D3) TECHNICAL AREA

Department of Biomedical, Metabolic and Neural Sciences-Human Morphology Section.

March 2006-November 2008

Research activity at Department of Biomedical Sciences-University of Modena and Reggio Emilia (S.S.D. BIO/14 "Farmacologia"; Tutor: Prof. Paola Zanoli).

January 2003-February 2006

PHD Student in **Sostanze Naturali Biologicamente Attive**-University of Modena and Reggio Emilia (Tutor: Prof. Paola Zanoli).

EDUCATION AND TRAINING

November 2002

Degree in **Chemistry and Pharmaceutical Technology** (110/110 e lode) discussing the experimental thesis entitled "Attività di una miscela di piante medicinale sulla trasmissione dopaminergica centrale" (Tutor: Prof. Paola Zanoli).

June 1996

Scientific high school, Liceo Scientifico statale A. Tassoni, Modena.

PERSONAL SKILLS

Native language Italian

Other languages

	COMPREHENSION		SPOKEN		WRITTEN PRODUCTION
	Ascolto	Lettura	Interazione	Produzione orale	
English	B1	B1	B1	B1	B1
French	A1	A1	A1	A1	A1

Levels A1/A2: basic - B1/B2: intermediated - C1/C2: Advanced
[Common European Framework of References for Languages](#)

Organizational and management skills

- Writing and participation in national research projects
- Supervisor of degree and doctoral thesis
- Referee activity for International Journals
- 2021: Guest Editor for Special Issue "Advances in Kinase Drug Discovery 2.0" per International Journal of Molecular Sciences (IJMS).
- 2022: Guest Editor for special Issue "Exosomes and Extracellular Vesicles in Health and Disease" per IJMS.
- 2022: Topical Advisory Panel Member per IJMS.
- 2023: Guest Editor for Special Issue "Molecular Research and Treatment of Prostate Cancer" per

IJMS.

Professional skills

- Animal treatments and minor surgery:
Treatments of rats and mice: per os, i.p., i.c.v. and subcutaneous; dissection of brain area and microsurgery; intracerebral microdialysis;
Behavioral tests on laboratory animals.
- Preparation of histological samples;
Techniques for isolation, fixation, embedding, cutting and staining of biological samples..
- Cell cultures:
Maintenance and treatments of cell lines; preparation of primary cultures; *in vitro analysis of* proliferation, viability and cell death, differentiation.
- Molecular biology techniques:
Protein analysis: extraction and fractionation of protein from tissues and cell cultures, Western Blotting, ELISA and immunocytochemistry.
- Immunofluorescence and confocal microscopy.

Digital skills

Good knowledge of Windows 10, Microsoft Office (Word, Excel, PowerPoint), statistical analysis (e.s. Origin, SPSS, GraphPad), imaging (Adobe Photoshop, Adobe PageMaker, NIS Elements).

Other skills

Research interests:

- Decoding and targeting resistance to inhibitors of the PI3K/AKT/mTOR pathway in acute leukemia: rationale for targeted therapies for patients bearing wild-type or mutated FLT3.
- Dissection of the novel AKT/miR145/RAS adaptive resistance in prostate cancer.
- Effects of exosomes from amniotic fluid stem cells (AFSCs) in neurodegenerative diseases and in osteoarticular pathologies.

Driving license

B

OTHER INFORMATIONS**Publications**

The research activity led to publications of 57 articles in International Journals, 1 chapter in an International Book and 2 articles in National a Journal
h-index: 23, 1770 citazioni (fScopus).

Publications in International Journals

1. Zanolì P, Rivasi M, **Zavatti M**, Brusiani F, Vezzalini F, Baraldi M
"Activity of single components of *Ferula hermonis* on male rat sexual behavior"
Int J Impot Res, 17 (6): 513-518, 2005.
2. Zanolì P, Rivasi M, **Zavatti M**, Brusiani F, Baraldi M
"New insight in the neuropharmacological activity of *Humulus lupulus* L."
J Ethnopharmacol, 102: 102-106, 2005.
3. Zanolì P, **Zavatti M**, Rivasi M, Baraldi M
"*Ferula hermonis* impairs sexual behavior in hormone-primed female rats"
Physiol Behav, 86: 69-74, 2005.
4. **Zavatti M**, Montanari C, Zanolì P
"Role of ferutinin in the impairment of the female sexual behavior induced by *Ferula hermonis*"
Physiol Behav, 89 (5): 656-661, 2006.

5. Zanolì P, **Zavatti M**, Rivasi M, Brusiani F, Losi G, Puia G, Avallone R, Baraldi M
"Evidence that the β -acids fraction of hops reduces central GABAergic neurotransmission"
J Ethnopharmacol, 109 (1): 87-92, 2007.
6. Zanolì P, **Zavatti M**
"Pharmacognostic and pharmacological profile of *Humulus lupulus* L." Review article
J Ethnopharmacol, 116: 383-396, 2008.
7. Zanolì P, Benelli A, **Zavatti M**, Rivasi M, Baraldi C, Baraldi M
"Improved sexual behavior in male rats treated with a chinese herbs extract: hormonal and neuronal implication"
Asian J Androl, 10(6): 937-945, 2008.
8. **Zavatti M**, Benelli A, Montanari C, Zanolì P
"The phytoestrogen ferutinìn improves sexual behavior in ovariectomized rats"
Phytomedicine, 16(6-7): 547-554, 2009.
9. Zanolì P, **Zavatti M**, Geminiani E, Corsi L, Baraldi M
"The phytoestrogen ferutinìn affects female sexual behavior modulating ER α expression in the hypothalamus"
Behav Brain Res, 199(2): 283-287, 2009.
10. **Zavatti M**, Corsi L, Zanolì P, Baraldi M
"Antiulcer activity of IAC, a novel free radical scavenger in rats"
J Pharm Pharmacol, 61(3): 395-397, 2009.
11. Palumbo C, Ferretti M, Bertoni L, Cavani F, Resca E, Casolari B, Carnevale G, **Zavatti M**, Montanari C, Benelli A, Zanolì P
"Influence of ferutinìn on bone metabolism in ovariectomized rats. I: role in preventing osteoporosis"
J Bone Miner Metab, 27(5): 538-545, 2009.
12. Zanolì P, **Zavatti M**, Rivasi M, Benelli A, Avallone R, Baraldi M
"Experimental evidence of the anaphrodisiac activity of *Humulus lupulus* L. in naïve male rats"
J Ethnopharmacol, 125(1): 36-40, 2009.
13. Bertoni L, Ferretti M, Cavani F, **Zavatti M**, Resca E, Benelli A, Palumbo C
"Leptin increases growth of primary ossification centers in fetal mice"
J Anat, 215(5): 577-583, 2009.
14. Zanolì P, **Zavatti M**, Montanari C, Baraldi M
"Influence of *Eurycoma longifolia* on the copulatory activity of sexually sluggish and impotent male rats"
J Ethnopharmacol, 126(2): 308-313, 2009.
15. Campioli E, **Zavatti M**, Avallone R, Puia G, Losi G, Baraldi M
"Evidence that isopropylthioxanthone (ITX) is devoid of anxiolytic and sedative effect"
Food Addit Contam Part A Chem Anal Control Expo Risk Assess, 7: 1-7, 2010.
16. Carnevale G, Di Viesti V, **Zavatti M**, Benelli A, Zanolì P
"*Griffonia simplicifolia* negatively affects sexual behavior in female rats"
Phytomedicine, 17(12): 987-991, 2010.
17. Ferretti M, Bertoni L, Cavani F, **Zavatti M**, Resca E, Carnevale G, Benelli A, Zanolì P, Palumbo C.
"Influence of ferutinìn on bone metabolism in ovariectomized rats. II: role in recovering osteoporosis"
J Anat, 217(1): 48-56, 2010.
18. **Zavatti M**, Zanolì P, Benelli A, Rivasi M, Baraldi C, Baraldi M.
"Experimental study on *Satureja montana*" as a treatment for premature ejaculation"
J Ethnopharmacol, 133(2): 629-633, 2011.
19. Di Viesti V, Carnevale G, **Zavatti M**, Benelli A, Zanolì P.

- "Increased sexual motivation in female rats treated with *Humulus lupulus* L. extract"
J Ethnopharmacol, 134(2): 514-517, 2011.
20. Carnevale G, Di Viesti V, **Zavatti M**, Zanolì P.
"Anxiolytic-like effect of *Griffonia simplicifolia* Baill. seed extract in rats"
Phytomedicine, 18(10):848-851, 2011.
 21. Carnevale G, Di Viesti V, **Zavatti M**, Benelli A, Zanolì P.
"Influence of *Griffonia simplicifolia* on male sexual behavior in rats: Behavioral and neurochemical study"
Phytomedicine, 18(11):947-952, 2011.
 22. Corsi L, **Zavatti M**, Geminiani E, Zanolì P, Baraldi M.
"Anti-inflammatory activity of the non-peptidyl low molecular weight radical scavenger IAC in carrageenan-induced oedema in rats"
J Pharm Pharmacol. 63(3):417-422, 2011.
 23. **Zavatti M**, Carnevale G, Benelli A, Zanolì P.
"Effects of the cannabinoid antagonist SR 141716 on sexual and motor behavior in receptive female rats"
Clin Exp Pharmacol Physiol. 38(11): 771-775, 2011.
 24. Carnevale G, Zanolì P, **Zavatti M**, Baraldi M.
"Further evidence of the antiulcer activity of IAC, a novel free radical scavenger"
Pharmacology 88(3-4):133-136, 2011
 25. Ferretti M, Bertoni L, Cavani F, Benincasa M, Sena P, Carnevale G, **Zavatti M**, Di Viesti V, Zanolì P, Palumbo C.
"Structural and histomorphometric evaluations of ferutinin effects on the uterus of ovariectomized rats during osteoporosis treatment"
Life Sci 90 (3-4): 161-168, 2011.
 26. Di Viesti V, Carnevale G, Carrozzo MM, **Zavatti M**, Baraldi M
"Influence of Parmigiano Reggiano diet on male sexual behavior in rats: behavioral and neurochemical study"
JPANS, 2: 77-82, 2012.
 27. Cavani F, Ferretti M, Carnevale G, Bertoni L, **Zavatti M**, Palumbo C.
"Effects of different doses of ferutinin on bone formation/resorption in ovariectomized rats"
J Bone Miner Metab. 30(6): 619-629, 2012.
 28. Pluchino N, Giannini A, Cela V, Santoro AN, Carnevale G, **Zavatti M**, Di Viesti V, Benelli A, Genazzani AR, Zanolì P.
"Effect of DHEA therapy on sexual behavior in female rats".
Gynecol Endocrinol. 29(5):496-502, 2013.
 29. **Zavatti M**, Resca E, Bertoni L, Maraldi T, Guida M, Carnevale G, Ferrari A, De Pol A.
"Ferutinin promotes proliferation and osteoblastic differentiation in human amniotic fluid and dental pulp stem cells"
Life Sci. 92(20-21):993-1003, 2013.
 30. Resca E, **Zavatti M**, Bertoni L, Maraldi T, De Biasi S, Pisciotta A, Nicoli A, La Sala GB, Guillot PV, David AL, Sebire NJ, De Coppi P, De Pol A.
"Enrichment in c-Kit⁺ enhances mesodermal and neural differentiation of human chorionic placental cells"
Placenta 34(7):526-535, 2013.
 31. Carnevale G, Riccio M, Pisciotta A, Beretti F, Maraldi T, **Zavatti M**, Cavallini GM, La Sala GB, Ferrari A, De Pol A.
"In vitro differentiation into insulin-producing β -cells of stem cells isolated from human amniotic fluid and dental pulp"
Dig Liver Dis. 45(8):669-676, 2013.
 32. Maraldi T, Riccio M, Pisciotta A, **Zavatti M**, Carnevale G, Beretti F, La Sala GB, Motta A, De Pol A.

- "Human amniotic fluid-derived and dental pulp-derived stem cells seeded into collagen scaffold repair critical-size bone defects promoting vascularization"
Stem Cell Res Ther. 21;4(3):53, 2013.
33. Guida M, Maraldi T, Resca E, Beretti F, **Zavatti M**, Bertoni L, La Sala GB, De Pol A.
"Inhibition of nuclear Nox4 activity by plumbagin: effect on proliferative capacity in human amniotic stem cells"
Oxid Med Cell Longev. 2013;2013:680816. doi: 10.1155/2013/680816
 34. Ferretti M, Cavani F, Manni P, Carnevale G, Bertoni L, **Zavatti M**, Palumbo C.
"Ferutinin dose-dependent effects on uterus and mammary gland in ovariectomized rats"
Histol Histopathol. 29(8): 1027-37, 2014.
 35. Maraldi T, Bertoni L, Riccio M, **Zavatti M**, Carnevale G, Resca E, Guida M, Beretti F, La Sala GB, De Pol A.
"Human amniotic fluid stem cells: neural differentiation *in vitro* and *in vivo*"
Cell Tissue Res. 357(1):1-13, 2014.
 36. **Zavatti M**, Bertoni L, Maraldi T, Resca E, Beretti F, Guida M, La Sala GB, De Pol A.
"Critical-size bone defect repair using amniotic fluid stem cell/collagen constructs: effect of oral ferutinin treatment in rats"
Life Sci. 121:174-83, 2015.
 37. Resca E, **Zavatti M**, Maraldi T, Bertoni L, Beretti F, Guida M, La Sala GB, Guillot PV, David AL, Sebire NJ, De Pol A, De Coppi P.
"Enrichment in c-Kit improved differentiation potential of amniotic membrane progenitor/stem cells"
Placenta 36(1):18-26, 2015.
 38. Maraldi T, Beretti F, Guida M, **Zavatti M**, De Pol A.
Role of hepatocyte growth factor in the immunomodulation potential of amniotic fluid stem cells.
Stem Cells Transl Med. 4(6):539-47, 2015.
 39. Maraldi T, Guida M, **Zavatti M**, Resca E, Bertoni L, La Sala GB, De Pol A.
"Nuclear Nox4 Role in Stemness Power of Human Amniotic Fluid Stem Cells"
Oxid Med Cell Longev.; 101304, 2015.
 40. Maraldi T, Resca E, Nicoli A, Beretti F, **Zavatti M**, Capodanno F, Morini D, Palomba S, La Sala GB, De Pol A.
"NADPH oxidase-4 and MATER expressions in granulosa cells: Relationships with ovarian aging"
Life Sci. Oct 1;162:108-14, 2016.
 41. **Zavatti M**, Guida M, Maraldi T, Beretti F, Bertoni L, La Sala GB, De Pol A.
"Estrogen receptor signaling in the ferutinin-induced osteoblastic differentiation of human amniotic fluid stem cells"
Life Sci. 164: 15-22, 2016.
 42. **Zavatti M**, Beretti F, Casciaro F, Comitini G, Franchi F, Barbieri V, Bertoni L, De Pol A, La Sala GB, Maraldi T.
"Development of a novel method for amniotic fluid stem cell storage"
Cytotherapy 19(8): 1002-1012, 2017.
 43. Beretti F, **Zavatti M**, Casciaro F, Comitini G, Franchi F, Barbieri V, La Sala GB, Maraldi T.
"Amniotic fluid stem cell exosomes: Therapeutic perspective"
Biofactors 44(2): 158-167, 2018.
 44. Casciaro F, Beretti F, **Zavatti M**, McCubrey JA, Ratti S, Marmioli S, Follo MY, Maraldi T.
"Nuclear Nox4 interaction with prelamin A is associated with nuclear redox control of stem cell aging"
Aging, 10(10): 2911-2934, 2018.
 45. **Zavatti M**, Beretti F, Casciaro F, Bertucci E, Maraldi T.

- Comparison of the therapeutic effect of amniotic fluid stem cells and their exosomes on monoiodoacetate-induced animal model of osteoarthritis.
Biofactors 46(1): 106-117, 2020
46. Braglia L, **Zavatti M**, Vinceti M, Martelli AM, Marmioli S.
Deregulated PTEN/PI3K/AKT/mTOR signaling in prostate cancer: Still a potential druggable target?
Biochim Biophys Acta Mol Cell Res. 1867 (9)118731 2020
47. Gatti, M., **Zavatti, M.**, Beretti, F., ...Bertucci, E., Maraldi, T.
Oxidative stress in Alzheimer's disease: In vitro therapeutic effect of amniotic fluid stem cells extracellular vesicles
Oxidative Medicine and Cellular Longevity, 2020, 2020, 2785343
48. Di Cerbo, A., Carnevale, G., Avallone, R., **Zavatti, M.**, Corsi, L.
Protective Effects of *Borago officinalis* (Borago) on Cold Restraint Stress-Induced Gastric Ulcers in Rats: A Pilot Study
Frontiers in Veterinary Science, 2020, 7, 427
49. Casciaro, F., Borghesan, M., Beretti, F., **Zavatti M.**, ...Maraldi, T., Demaria, M.
Prolonged hypoxia delays aging and preserves functionality of human amniotic fluid stem cells
Mechanisms of Ageing and Development, 2020, 191, 111328
50. Gatti, M., Beretti, F., **Zavatti, M.**, ...Palumbo, C., Maraldi, T.
Amniotic fluid stem cell-derived extracellular vesicles counteract steroid-induced osteoporosis in vitro
International Journal of Molecular Sciences, 2021, 22(1), pp. 1–18, 38
51. Magarò, M.S., Bertacchini, J., Florio, F., **Zavatti, M.**, ...Biressi, S., Palumbo, C.
Identification of sclerostin as a putative new myokine involved in the muscle-to-bone crosstalk
Biomedicines, 2021, 9(1), pp. 1–22, 71
52. Casciaro, F., Zia, S., Forcato, M., **Zavatti, M.**, ...Roda, B., Maraldi, T.
Unravelling heterogeneity of amplified human amniotic fluid stem cells sub-populations
Cells, 2021, 10(1), pp. 1–21, 158
53. Beretti, F., Farnetani, F., Bonetti, L.R., Fabbiani, L., **Zavatti, M.**, Maiorana, A., Pellacani, G., Maraldi, T.
The interplay between HGF/C-MET axis and NOX4 in braf mutated melanoma
International Journal of Molecular Sciences, 2021, 22(2), pp. 1–12, 761
54. Di Cerbo, A., Roncati, L., Marini, C., Carnevale, G., **Zavatti, M.**, Avallone, R., Corsi, L.
Possible Association Between DHEA and PKC ϵ in Hepatic Encephalopathy Amelioration: A Pilot Study
Frontiers in Veterinary Science, 2021, 8, 695375
55. Darici, S., **Zavatti, M.**, Braglia, L., ...Jørgensen, H.G., Marmioli, S.
Synergistic cytotoxicity of dual PI3K/mTOR and FLT3 inhibition in FLT3-ITD AML cells
Advances in Biological Regulation, 2021, 82, 100830
56. **Zavatti, M.**, Gatti, M., Beretti, F., Palumbo, C., Maraldi, T.
Exosomes Derived from Human Amniotic Fluid Mesenchymal Stem Cells Preserve Microglia and Neuron Cells from A β
International Journal of Molecular Sciences, 2022, 23(9), pp. 4967.
57. Gatti, M., Dittlau, K.S., Beretti, F., Yedigaryan, L., **Zavatti, M.**, Cortelli, P., Palumbo, C., Bertucci, E., Van Den Bosch, L., Sampaolesi, M., Maraldi, T.
Human neuromuscular junction on a chip: impact of amniotic fluid stem cell extracellular vesicles on muscle atrophy and NMJ integrity
International Journal of Molecular Sciences, 2023, 24(5), pp. 4944.

58. Beretti, F., Gatti, M., **Zavatti, M.**, ... Pellacani, G., Maraldi, T.
Reactive Oxygen Species Regulation of Chemoresistance and Metastatic Capacity of Melanoma: Role of the Cancer Stem Cell Marker CD271
Biomedicines, 2023, 11(4), 1229.
59. Darici, S., Jørgensen, H.G., Huang, X., ... Marmioli, S., **Zavatti, M.**
Improved efficacy of quizartinib in combination therapy with PI3K inhibition in primary FLT3-ITD AML cells
Advances in Biological Regulation, 2023, 89, 100974.
60. Beretti, F., **Zavatti, M.**
Special Issue "Exosomes and Extracellular Vesicles in Health and Diseases 2.0"
International Journal of Molecular Sciences, 2024, 25(22), 12447.
61. Quezada Meza, C.P., Salizzato, V., Calistri, E., ... Borgo, C., Ruzzene, M.
Critical role of protein kinase CK2 in chronic myeloid leukemia cells harboring the T315I BCR::ABL1 mutation
International Journal of Biological Macromolecules, 2025, 286, 138305.

Chapters in International Book

- Zanolli P and **Zavatti M**
"Neuropharmacological activity of *Humulus lupulus*" in Beer in Health and Disease Prevention, edited by V.R. Preedy and R.R. Watson, pp. 549-556, 2009.

Publications in National Journals

- **Zavatti M**, Zanolli P
"Humulus lupulus L."
Natural 1, 58: 26-35, Dicembre 2006.
- **Zavatti M**, Ferretti M, Cavani F, Bertoni L, Resca E, Carnevale G, Palumbo C
"Effetto osteoprotettivo del fitoestrogeno ferutinina nella prevenzione dell'osteoporosi"
Natural 1, 82: 26-33, Maggio 2009.

Recognitions and prizes

2015-The scientific contribution to 69th Congresso Nazionale della Società Italiana di Anatomia e Istologia BILAYERED SCAFFOLD COLONIZED WITH DENTAL PULP STEM CELLS FOR OSTEOCHONDRAL TISSUE ENGINEERING APPLICATION Laura Bertoni, **Manuela Zavatti**, Elisa Resca, Tullia Maraldi, Francesca Beretti, Gianluca Carnevale, Alessandra Pisciotta e Anto De Pol was the winner of a scholarship.

Certifications

FELASA- Cat.B (N.023/09)-EU Functions A, B, C, D and supplementary modules 20,21,22 e 23

Modena, October 14, 2024

Manuela Zavatti

