

PERSONAL
INFORMATION

Tullio FLORIO

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ACTUAL POSITION

FULL PROFESSOR OF PHARMACOLOGY

WORK EXPERIENCE

November 2019-to date

Full Professor of Pharmacology

Medical-Pharmaceutical School, University of Genova, Italy
Teaching and scientific research
Pharmacology and Neuropharmacology

November 2002-to date

Associate Professor of Pharmacology

Medical-Pharmaceutical School, University of Genova, Italy
▪ Teaching and scientific research
Pharmacology and Neuropharmacology

November 1998-October
2002**Associate Professor of Pharmacology**

Medical School, University G. D'Annunzio di Chieti, Italy
▪ Teaching and scientific research
Pharmacology and Neuropharmacology

July 1997- November
1997**Visiting scientist**

Vollum Institute for Advanced Biomedical Research, Oregon
Health Sciences University, Portland Oregon, USA
▪ Scientific research
Molecular & cell biology

July 1990 - august 1993

Post-doctoral fellow

Vollum Institute for Advanced Biomedical Research, Oregon
Health Sciences University, Portland Oregon, USA
Scientific research
Molecular & cell biology

EDUCATION AND
TRAINING

1991-1994 **Ph.D in Neuropharmacology and toxicology**

University of Naples Federico II , Napoli, Italy

- Pharmacology of antiproliferative peptides

1987-1990 **Residency in Endocrinology**

University of Naples Federico II Napoli, Italy

- Neuroendocrinoimmunology

Magna cum
laude1980-1987 **Medical Doctor**

University of Naples Federico II Napoli, Italy

- Pharmacology of hormone secretion

Magna cum
laude

RESEARCH ACTIVITY

Publications

Author of 245 publications in indexed international scientific journals, 6 Editorials and commentaries, 23 Chapters in books or Meetings' Proceedings, 17 short communications, and more than 400 abstracts of presentation at scientific meetings

BIBLIOMETRIC INDICES:

**Impact Factor: total 1131 (2024), mean 5.31, mean 30 best publications 10,7;
total citations number 12499; h index 58 (SCOPUS)**

Projects

Main research themes

- 1) Oncological pharmacology (characterization of the pharmacological sensibility of cancer stem cells isolated from human glioblastomas and breast carcinomas; establishment of a comparative oncology model for breast cancer using canine and feline CSC; identification of cancer stem cells in benign tumors (pituitary adenomas, meningiomas); characterization of the molecular mechanisms of the antiproliferative effects of somatostatin and dopamine receptor agonists, bispecific chimere and metformin in cancer stem cells.
- 2) Neuropharmacology (identification of the molecular mechanisms of neurotoxicity induced by amyloid peptides, identification of novel neuroprotective pharmacological approaches)
- 3) Development of 3D tumor cell models for drug screening

Journal Editor

- Review Editor of Frontiers in Endocrinology and Frontiers in Neuroscience (Neuroendocrine section)
- Member of the Editorial Board of "Anticancer Drugs", "World Journal of Pharmacology", and "International Journal of Molecular Sciences"

Membership

- Member of the Italian Society of Pharmacology, The Endocrine Society, Society for Neuroscience, European Neuroendocrine association, International Brain Research Organization, International Regulatory Peptides Society

Research funding

- PRINCIPAL INVESTIGATOR IN THE FOLLOWING FUNDED PROJECTS:
- Research project Italian Ministry for University and Research (MIUR) "FIRB Accordi di Programma 2011": Patologie neurodegenerative e danno cerebrale: meccanismi cellulari e molecolari alla base del deterioramento cognitivo e correlazione al danno funzionale nell'uomo (2012-2014)
- Research project Italian association for Cancer Research (AIRC): Cancer stem cell transdifferentiation in glioblastoma angiogenesis and invasiveness: role of CXCR4 and CXCR7 (2013-2015)
- Research project Compagnia di San Paolo "Studio dei dettagli molecolari della conversione della proteina prionica nella forma neurotossica per individuare nuovi target farmacologici" (2014-2016)
- Research project Fondazione Giovanni Celegghin "Study on the molecular players controlling glioblastoma stem cell reprogramming into differentiated non-tumorigenic cells as a novel pharmacological therapeutic strategy" (2018-2020)
- Research project "Ricerca Corrente IZS-PLV": Terapie alternative per la cura di neoplasie maligne, studio e validazione del modello canino (2021)
- NEXT GENERATION EU – PNRR – PARTENARIATI ESTESI - "A multiscale integrated approach to the study of the nervous system in health and disease (MNESYS) Partnariato Esteso nell'ambito del Piano Nazionale di Ripresa e Resilienza, Missione 4 "Istruzione e ricerca" – Componente 2 "Dalla ricerca all'impresa" – Investimento 1.3, finanziato dall'Unione europea (2022-2026) -Responsabile Nazionale Spoke 6 (NEURODEGENERATION, TRAUMA AND STROKE)
- Finanziamento fondi 5% IRCCS Policlinico San Martino – Genova Co-culture 3D di Glioblastomi umani in Organoidi cerebrali: nuova frontiera della ricerca neuro-oncologica (3DGO) (2022-2024)

EDITORIAL ACTIVITY

Contribute to the publication of the following books:

- II edition of the book "Cardio-Angio Farmacologia" di A. Marino, Piccin Editore (Padova) (1994)
- I to V edition of the book "Farmacologia. Principi di base ed applicazioni terapeutiche" di F. Rossi, V. Cuomo, C. Riccardi, Edizioni Minerva Medica (Torino) (2005, 2011, 2016, 2019, 2023)
- I edition of the book "Biotecnologie" di Aldo Pagano, Helen Kreuzer, Adrienne Massey, Zanichelli Editore (Bologna) (2014)
- XV edition of the Italian version of the text "Farmacologia generale e clinica" by B. G. Katzung e T. W. Vanderah, Piccin Nuova Libreria (Padova) (2023)

ANNEXES

LIST of the publications OF THE LAST FIVE YEARS

1. Barbieri F., Verduci I., Carlini V., Zona G.L., Pagano A., Mazzanti M. and **Florio T.** “Repurposed biguanide drugs in glioblastoma exert antiproliferative effects via the inhibition of intracellular chloride channel 1 activity” (REVIEW) *Frontiers in Oncology* 9: art. num. 135, 18 pages (2019). **I.F. = 4.7**
2. Medoro A., Bartollino S., Mignogna D., Marziliano N., Porcile C., Nizzari M., **Florio T.**, Pagano A., Raimo G., Intrieri M., Russo C. “Proteases upregulation in sporadic Alzheimer’s disease brain”, *Journal of Alzheimer’s Disease* 68: 931-938 (2019). **I.F. = 4.6**
3. Brown P., Zhou Y., Tan A., El-Esawi M.A., Liehr T., Blanck O., Gladue D.P., Almeida G., Cernava T., Sorzano C., Yeung, A., Engel M., Chandrasekaran, A., Muth T., Staeger M., Daulatabad S., Widera D, Zhang J, Meule A, Honjo K, Pourret O., Yin C., Zhang Z, Cascella M, Flegel W., Goodyear C., van Raaij M, Bukowy-Bieryllo Z., Campana L., Kurniawan N., Lalaouna D., Hüttner F., Ammerman B., Ehret F., Cobine P., Tan, E., and the RELISH Consortium (including **Florio T.**) “Large expert-curated database for benchmarking document similarity detection in biomedical literature search” *Database - The Journal of Biological Databases and Curation* 2019: 1-67 (2019). **I.F. = 5.8**
4. Thellung S., Corsaro A., Nizzari M., Barbieri F., and **Florio T.** “Autophagy-activator drugs: a new opportunity in neuroprotection from misfolded protein toxicity” (REVIEW) *International Journal of Molecular Sciences* 20: art. num. 901, 33 pages (2019). **I.F. = 5.6**
Selected as one of the Highly Cited Papers of IJMS in 2019
5. Pagano K., Galante D., D’Arrigo C., Corsaro A., Nizzari M., **Florio T.**, Molinari H., Tomaselli S., L. Ragona “Effects of prion protein on A β 42 and pyroglutamate-modified A β pE(3-42) oligomerization and toxicity” *Molecular Neurobiology* 56: 1957-1971 (2019). **I.F. = 5.1**
6. Pastorino O., Gentile M.T., Mancini A., Del Gaudio N., Di Costanzo A., Bajetto A., Franco P., Altucci L., **Florio T.**, Stoppelli M.P., Colucci D’Amato L. “Histone deacetylase inhibitors impair vasculogenic mimicry from glioblastoma cells” *Cancers* 11: art. num. 747 (2019). **I.F. = 5.2**
7. Gatto F., Barbieri F., Arvigo M., Thellung S., Amarù J., Albertelli M., Ferone D. and **Florio T.** “Biological and biochemical basis of the differential efficacy of first and second generation somatostatin receptor ligands in neuroendocrine neoplasms” (REVIEW) *International Journal of Molecular Sciences* 20: art. Num. 3940; (2019). **I.F. = 5.6**
8. Thellung S., Corsaro A., Bosio A., Zambito M., Barbieri F., Mazzanti M. and **Florio T.** “Emerging role of cellular prion protein in the maintenance and expansion of glioma stem cells” (REVIEW) *Cells* 8: art. Num 1458; (2019). **I.F. = 6.0**
9. Würth R., Thellung S., Corsaro A., Barbieri F. and **Florio T.** “Experimental evidence and clinical implications of pituitary adenoma stem cells” (REVIEW) *Frontiers in Endocrinology* 11: art. Num. 54 (2020). **I.F. = 5.2**

10. Bajetto A., Thellung S., Dellacasagrande I., Pagano A., Barbieri F. and **Florio T.** “Cross-talk between mesenchymal and glioblastoma stem cells: communication beyond controversies” (REVIEW) Stem Cells Translational Medicine 9: 1310-1330 (2020). **I.F. = 6.0**
(Una foto di microscopia confocale contenuta nell’articolo è stata scelta per la copertina del volume della rivista)
11. Brizzolara A., Garbati P., Vella S., Quattrone A., Tonini G., Capasso M., Longo L., Barbieri R., **Florio T.**, Pagano A. “Co-administration of fendiline hydrochloride enhances chemotherapeutic efficacy of cisplatin in neuroblastoma treatment” Molecules 25: art num 5234 (2020). **I.F. = 4.6**
12. Garbati P., Barbieri R., Cangelosi D., Zanon C., Costa D., Eva A., Thellung S., Calderoni M., Baldini F., Tonini G.P., Modesto P., **Florio T.**, Pagano A. “MCM2 and carbonic anhydrase 9 are novel potential targets for neuroblastoma pharmacological treatment” Biomedicines 8: art num 471 (2020). **I.F. = 4.7**
13. Thomas L., **Florio T.**, Perez-Castro C. “Extracellular Vesicles loaded miRNAs as potential shared modulators between cancer diseases and neurodegenerative disorders” (REVIEW) Frontiers in Cellular Neuroscience 14: 590034 (2020). **I.F. = 5.3**
14. Vitale R.M., Thellung S., Tinto F., Solari A., Gatti M., Nuzzo G., Ciavatta M.L., Manzo E.*, **Florio T.***, Amodeo P.* “Identification of the hydantoin alkaloid parazoanthines as novel CXCR4 antagonists by computational and in vitro functional characterization” (***Joint Corresponding Authors**) Bioorganic Chemistry 105: Art num 104337 (2020). **I.F. = 5.0**
15. Ailuno G., Baldassari S., Lai F., **Florio T.***, Caviglioli G.* “Exosomes and extracellular vesicles as emerging theranostic platforms” (REVIEW) (***Joint Corresponding Authors**) Cells 9: Art. Num. 2569 (2020). **I.F. = 6.0**
16. Fanciulli G., Di Molfetta S., Dotto A., **Florio T.**, Feola T., Rubino M., de Cicco F., Colao A., Faggiano A. “Emerging therapies in pheochromocytoma and paraganglioma: Immune Checkpoint Inhibitors in the starting blocks” (REVIEW) Journal of Clinical Medicine 10: art num 88 (2021). **I.F. = 3.9**
17. Klionsky D.J.,, **Florio T.**,, Thellung S.,, et al. “Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition)” Autophagy 17: 1-382 (2021). **I.F. = 13.3**
18. Amarù J., Barbieri F., Arvigo M., Solari A., Bajetto A., Nista F., Campana C., Gaggero G., Prior A., Criminelli Rossi D., Zona G., Ferone D., **Florio T.#**, Gatto F. # (***Joint Last Authors**) “Octreotide and pasireotide combination treatment in somatotroph tumor cells: predominant role of SST2 in mediating ligand effects” Cancers 13: Art. Num. 1816 (2021). **I.F. = 5.2**
19. Baldini F., Calderoni M., Vergani L., Modesto P., **Florio T.**, Pagano A. “An overview of long non-coding (lnc)RNAs in Neuroblastoma” (REVIEW) International Journal of Molecular Sciences 22: Art. Num. 4234 (2021). **I.F. = 5.6**

20. Di Molfetta S., Dotto A., Fanciulli G., **Florio T.**, Feola T., Colao A., Faggiano A. “Immune Checkpoint Inhibitors: new weapons against Medullary Thyroid Cancer?” (REVIEW) *Frontiers in Endocrinology* 12: 677846 (2021). **I.F. = 5.2**
21. Garbati P., Barbieri R., Calderoni M., Nizzari M., Baldini F., **Florio T.**, Pagano A. “Efficacy of a three drug-based therapy for neuroblastoma in mice” *International Journal of Molecular Sciences* 22: Art. Num. 6753 (2021). **I.F. = 5.6**
22. Pastorino S., Baldassari S., Ailuno G., Zuccari G., Drava G., Petretto A., Cossu V., Marini C., Alfei S., **Florio T.**, Sambuceti G., Caviglioli G. “Two Novel PET Radiopharmaceuticals for Endothelial Vascular Cell Adhesion Molecule-1 (VCAM-1) Targeting” *Pharmaceutics* 13: Art. Num. 1025 (2021). **I.F. = 5.4**
23. Gasbarri C., Ronci M., Aceto A., Vasani R., Iezzi G., **Florio T.**, Barbieri F., Angelini G., Scotti L. “Structure and properties of electrochemically synthesized silver nanoparticles in aqueous solution by high resolution techniques.” *Molecules* 26: Art. Num. 5155 (2021). **I.F. = 4.6**
24. Pagano C., Navarra G., Pastorino IO., Avilia G., Coppola L., Della Monica R., Chiariotti L., **Florio T.**, Corsaro A., Torelli G, Caiazzo P., Bifulco M., Laezza C. “N6-isopentenyladenosine hinders the Vasculogenic Mimicry in human glioblastoma cells through Src-120 catenin pathway modulation and RhoA activity inhibition” *International Journal of Molecular Sciences* 22: Art. Num. 10530 (2021). **I.F. = 5.6**
25. Di Molfetta S., Feola T., Fanciulli G., **Florio T.**, Colao A., Faggiano A. “Immune checkpoint blockade in lung carcinoids with aggressive behaviour: one more arrow in our quiver?” (REVIEW) *Journal of Clinical Medicine* 11: Art. Num. 1019 (2022). **I.F. = 3.9**
26. Capponi G., Zambito M., Neri I., Cottone F., Mattarelli M., Vassalli M., Caponi S., and **Florio T.** “Cellular mechanosensitivity: validation of an adaptable 3D-printed device for microindentation” *Nanomaterials* 12: art num 2691 (2022). **I.F. = 5.3**
27. Fanciulli G., Modica R., La Salvia A., Campolo F., **Florio T.**, Mikovic N., Plebani A., Di Vito V., Colao A., Faggiano A. “Immunotherapy of Neuroendocrine Neoplasms: any role for the Chimeric Antigen Receptor T cells?” (REVIEW) *Cancers* 14: Art. Num. 3991 (2022). **I.F. = 5.2**
28. Thellung S., Corsaro A., Dellacasagrande I., Nizzari M., Zambito M., and **Florio T.** “Proteostasis unbalance in prion diseases: mechanisms of neurodegeneration and therapeutic targets” (REVIEW) *Frontiers in Neuroscience* 16: 966019 (2022). **I.F. = 4.3- N° citazioni =2**
29. Barbieri F., Bosio A.G., Pattarozzi A., Tonelli M., Bajetto A., Verduci I., Cianci F., Cannavale G., Palloni L.M.G., Francesconi V., Thellung S., Fiaschi P., Mazzetti S., Schenone S., Balboni B., Giroto S., Malatesta P., Daga A., Zona G., Mazzanti M., and **Florio T.** “Chloride intracellular channel 1 activity is not required for glioblastoma development but its inhibition dictates glioma stem cell responsivity to novel biguanide derivatives” *Journal of Experimental & Clinical Cancer Research* 41: Art. Num. 53 (2022). **I.F. = 11.3**

30. Ailuno G, Balboni A., Caviglioli G., Lai F., Barbieri F., Dellacasagrande I., **Florio T.***, Baldassari S. “Boron vehiculating nanosystems for neutron capture therapy in cancer treatment”
*Corresponding Author (REVIEW) Cells 11: Art. Num. 4029 (2022). **I.F. = 6.0**
31. Modica R., Fanciulli G., La Salvia A., Grossrubatscher E.M., **Florio T.**, Ferraù F., Veresani A., Russo F., Colao A., Faggiano A. “Proteasome inhibitors in medullary thyroid carcinoma: time to restart with clinical trials?” Frontiers in Endocrinology 14:1145926 (2023). **I.F. = 5.2**
32. Zambito M., Viti F., Bosio A.G., Ceccherini I., **Florio T.**, Vassalli M. “The impact of experimental conditions on cell mechanics as measured with nanoindentation” Nanomaterials 13, art. num. 1190 (2023). **I.F. = 5.3**
33. Viti F., Pramotton F., Martufi M., Magrassi R., Pedemonte N., Nizzari M., Cella Zancacchi F., De Michele B., Alampi M., Zambito M., Santamaria G., Bajetto A., Sardar S., Tomati V., Gandullia P., Giampietro C., **Florio T.**, Beltrame F., Vassalli M., Ceccherini I. “Patients’ dermal fibroblasts as disease markers for visceral myopathy” Biomaterials Advances 148: Art. Num. 213355 (2023). **IF = 7.9**
34. Ailuno G., Baldassari S., Balboni A., Drava G., Spalletti C., Tantillo E., Mazzanti M., Barbieri F., Thellung S., **Florio T.**, Caviglioli G. “Development and validation of a GC-MS method for determination of metformin in normal brain and in glioblastoma tissues” Journal of Pharmaceutical and Biomedical Analysis 234: 115503 (2023). **I.F. = 3.4**
35. Barbieri F., Bajetto A., Dellacasagrande I., Solari A., Wurth R., Fernandez V., Rancati S., Ceresa D., Appolloni I., De Luca G., Dono M., P. Nozza, Schiapparelli P., Gambaro M., Fiaschi P., Gaggero G., Costanzo N., Thellung S., Malatesta P., Pagano A., Zona G., De Pietri Tonelli D., and **Florio T.** “Stem-like signatures in human meningioma cells are under the control of CXCL11/CXCL12 chemokine activity” Neuro-Oncology 25(10):1775-1787 (2023). **I.F. = 15.9**
36. Spinelli S., Barbieri F., Averna M., **Florio T.**, Pedrazzi M., Tremonti B.F., Capraro M., De Tullio R. “Expression of calpastatin hcast 3-25 and activity of the calpain/calpastatin system in human glioblastoma stem cells: involvement of hcast 3-25 in cell differentiation” Frontiers in Molecular Biosciences 11:1359956 (2024) **I.F. = 3.9**
37. Ailuno G., Baldassari S., Balboni A., Pastorino S., Zuccari G., Cortese K., Barbieri F., Drava G., **Florio T.**, Caviglioli G. “Development of biotinylated liposomes encapsulating metformin for therapeutic targeting of inflammatory-based diseases” Pharmaceutics 16: Art. Num 235 (2024) **I.F. = 4.9**
38. Balboni A., Aliuno G.[§], Baldassari S., Drava G., Petretto A., Grinovero N., Cavalleri O., Angeli E., Lagomarsino A., Canepa P., Corsaro A., Tremonti B., Barbieri F., Thellung S., Contini P., **Florio T.^{#§}**, Caviglioli G.[#] “Human glioblastoma-derived cell membrane nanovesicles: a novel, cell-specific strategy for boron neutron capture therapy of brain tumors” Scientific Reports (under second revision, 2024) (**#Co-last and §corresponding authors**). **I.F. = 3.8**
39. Giammello F., Biella C., Prioria E.C., Amat Di San Filippo M., Leonea R., D'Ambrosio F., Paternò M., Cassioli G., Spalletti C., Morella I., Ruberti C., Tremonti B., Barbieri F., Lombardi G., Brambilla

- R., **Florio T.**, Galli R., Rossi P., Brandalise F. “Modulating voltage-gated sodium channels to enhance differentiation and sensitize glioblastoma cells to chemotherapy” *Cell Communication and Signaling* 22: 434 (2024) **I.F. = 8.2**
40. Corsaro A., Dellacasagrande I., Tomanelli M., Pagano A., Barbieri F., Thellung S., and **Florio T.** “The expression of pro-prion, a transmembrane isoform of the prion protein, leads to the constitutive activation of the canonical Wnt/ β -catenin pathway to sustain the stem-like phenotype of human glioblastoma cells” *Cancer Cell International* (in press, 2024) **I.F. = 5.3**
41. Corsaro A., Tremonti B., Bajetto A., Barbieri F., Thellung S., and **Florio T.** “Chemokine signaling in tumors: potential role of CXC chemokines and their receptors as glioblastoma therapeutic targets” *Expert Opinion on Therapeutic Targets* (in press, 2024) **I.F. = 4.6**

Genova, November 19th, 2024

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