

Miroslav Savić, PhD

Employment Information:

- 2015. Full Professor
Department of Pharmacology, Faculty of Pharmacy, University of Belgrade
- 2010. Associate Professor
Department of Pharmacology, Faculty of Pharmacy, University of Belgrade
- 2005. Assistant Professor
Department of Pharmacology, Faculty of Pharmacy, University of Belgrade
- 2002. Assistant
Department of Pharmacology, Faculty of Pharmacy, University of Belgrade
- 1998. Assistant trainee
Department of Pharmacology, Faculty of Pharmacy, University of Belgrade

Education:

- 2004. PhD degree in the field of Pharmacology, University of Belgrade – Faculty of Medicine
- 2002. Master of Science in the field of Experimental Pharmacology, University of Belgrade – Faculty of Medicine
- 1997. Master Degree in Pharmacy, University of Belgrade – Faculty of Pharmacy (9.84/10)

Training:

- Study visits to the Behavioral Laboratory in France - Vulnérabilité, Adaptation et Psychopathologie, CNRS UMR 7593, Hopital Pitié-Salpêtrière, Paris, coordinator Dr. George Chapouthier (2004) and the collaborating laboratory in Austria - Center for Brain Research, Medical University Vienna, Vienna, coordinator Dr. Werner Sieghart (2008)
- 2003–Long-term fruitful collaboration with research groups from USA (Dr. James M Cook, Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee and the Milwaukee Institute of Drug Discovery, Milwaukee, Wisconsin, United States), Austria (Dr. Werner Sieghart and Dr. Margot Ernst, Department of Molecular Neurosciences, Center for Brain Research, Medical University of Vienna, Vienna, Austria), and Canada (Dr. Etienne Sibille, Campbell Family Mental Health Research Institute of CAMH, Toronto, Canada), which obtains scientific and methodological compatibility and multidisciplinary

expertise needed for reaching the goals of innovative research for advancing treatment of psychiatric and neurological diseases

Academic awards and distinctions:

- 2018, 2020. and 2021. Winner of the award for the best work at the Faculty of Pharmacy published in journals of category M21a
- 2020. Acknowledgment of the Government of the Republic of Serbia for its contribution to the fight against the pandemic within the Working Group COVID-19 of the Ministry of Education, Science and Technological Development

Teaching activities:

- From the school year 2005/2006. He has been participating in the realization of theoretical classes in undergraduate studies in the subject of Pharmacology, and according to the reformed curriculum, he has been a teacher for the subject of Pharmacotherapy since the school year 2009/10. Within the Doctoral Academic Studies of Pharmaceutical Sciences, he was the head of the elective module Pharmacology since the beginning of these studies (school year 2006/07), engaged in the implementation of a number of subjects. He is the mentor of eight defended doctoral dissertations.

Textbooks:

- Ilić K, Novaković A, Savić M, Stepanović Petrović R, Tomić M. Praktikum iz farmakologije. Farmaceutski fakultet, Beograd, 2009.
- Ugrešić N, Stepanović-Petrović R, Savić M. Farmakoterapija za farmaceute, Farmaceutski fakultet, Beograd, 2011.

Activities within the Faculty:

- 2006– Member of the Commission for Accreditation of Scientific Research Organizations
- 2007–Member of the Commission for Postgraduate Teaching - Doctoral Studies
- 2006/2007. Head of the entrance exam at the Faculty of Pharmacy, University of Belgrade for the school year 2006/07. year
- 2007-2008. Member of the Commission for Accreditation of Higher Education Institutions

Activities within wider Academic Community:

- 2010-2015. Full-member of the Ethical Council for the Welfare of Experimental Animals of the Republic of Serbia
- 2014– Full-member of the Commission for registration of human medicines of the Medicines and Medical Devices Agency of Serbia
- 2019– Full-member of the Ethics Committee of Republic of Serbia
- 2022– Full-member of the Parent Scientific Board for Medical Sciences of Republic of Serbia

Projects:

- 2022-2024 Project coordinator of the national project (National fund of Serbia): *Neuroimmune aspects of mood, anxiety and cognitive effects of leads/drug candidates acting at GABAA and/or sigma 2 receptors: In vitro/in vivo delineation by nano- and hiPSC-based platforms*
- 2019-2022 Leader of Work Package 2, and coordinator at FPUB: *H2020-Innovative Medicines Initiative* ongoing project IMI2-2017-13-10: - *Improving the preclinical prediction of adverse effects of pharmaceuticals on the nervous system (NeuroDeRisk, Grant agreement ID: 821528)*. The overall project costs 9.752.063 EUR; the budget to FPUB 696.150 EUR
- 2018-2020 Project coordinator from the Serbian side of the bilateral projects with Medical University of Vienna, Austria: *Involvement of GABA receptors in modulation of neuropathic pain in animal models*
- 2016-2017 Project coordinator from the Serbian side of the bilateral projects with Medical University of Vienna, Austria: *Alpha 5 subunit containing GABA A receptors in development, health and disease*
- 2011-2019 Project coordinator of the national project: *Behavioral effects of repeated administration of newly-synthesized compounds selective for distinct subtypes of the benzodiazepine binding site of GABA A receptors: comparison with standard psychopharmacological drugs (granted by MESTD-RS)*.
- 2006-2010 Project coordinator of the national project: *Behavioral characterization of newly-synthesized compounds selective for distinct subtypes of the benzodiazepine binding site of GABA A receptors (granted by MESTD-RS)*

Publications:

- Arandelović J, Santrač A, Batinić B, Todorović L, Ahmed Khan MZ, Rashid F, Poe MM, Obradović A, Cook JM, Savić MM. Positive and Negative Selective Allosteric Modulators of $\alpha 5$ GABAA Receptors: Effects on Emotionality,

- Motivation, and Motor Function in the 5xFAD Model of Alzheimer's Disease. *J Alzheimers Dis.* 2021;84(3):1291-1302. doi: 10.3233/JAD-215079.
- Santrač A, Batinić B, Stamenić TT, Arandžević J, Sharmin D, Knutson DE, Cook JM, Savić MM. Positive modulation of $\alpha 5$ GABAA receptors leads to dichotomous effects in rats on memory pattern and GABRA5 expression in prefrontal cortex and hippocampus. *Behav Brain Res.* 2022 Jan 7;416:113578. doi: 10.1016/j.bbr.2021.113578.
 - Andronis C, Silva JP, Lekka E, Virvilis V, Carmo H, Bampali K, Ernst M, Hu Y, Loryan I, Richard J, Carvalho F, Savić MM. Molecular basis of mood and cognitive adverse events elucidated via a combination of pharmacovigilance data mining and functional enrichment analysis. *Arch Toxicol.* 2020 Aug;94(8):2829-2845. doi: 10.1007/s00204-020-02788-1
 - Vasović D, Divović B, Treven M, Knutson DE, Steudle F, Scholze P, Obradović A, Fabjan J, Brković B, Sieghart W, Ernst M, Cook JM, Savić MM. Trigeminal neuropathic pain development and maintenance in rats are suppressed by a positive modulator of $\alpha 6$ GABAA receptors. *Eur J Pain.* 2019 May;23(5):973-984. doi: 10.1002/ejp.1365.
 - Sieghart W, Savić MM. International Union of Basic and Clinical Pharmacology. CVI: GABAA Receptor Subtype- and Function-selective Ligands: Key Issues in Translation to Humans. *Pharmacol Rev.* 2018 Oct;70(4):836-878. doi: 10.1124/pr.117.014449.
 - Knutson DE, Kodali R, Divović B, Treven M, Stephen MR, Zahn NM, Dobričić V, Huber AT, Meirelles MA, Verma RS, Wimmer L, Witzigmann C, Arnold LA, Chiou LC, Ernst M, Mihovilovic MD, Savić MM, Sieghart W, Cook JM. Design and Synthesis of Novel Deuterated Ligands Functionally Selective for the γ -Aminobutyric Acid Type A Receptor (GABAAR) $\alpha 6$ Subtype with Improved Metabolic Stability and Enhanced Bioavailability. *J Med Chem.* 2018 Mar 22;61(6):2422-2446. doi: 10.1021/acs.jmedchem.7b01664.
 - Joksimović S, Divljaković J, Van Linn ML, Varagic Z, Brajković G, Milinković MM, Yin W, Timić T, Sieghart W, Cook JM, Savić MM. Benzodiazepine-induced spatial learning deficits in rats are regulated by the degree of modulation of $\alpha 1$ GABA(A) receptors. *Eur Neuropsychopharmacol.* 2013 May;23(5):390-9. doi: 10.1016/j.euroneuro.2012.05.003.
 - Savić MM, Majumder S, Huang S, Edwankar RV, Furtmüller R, Joksimović S, Clayton T Sr, Ramerstorfer J, Milinković MM, Roth BL, Sieghart W, Cook JM. Novel positive allosteric modulators of GABAA receptors: do subtle differences in activity at alpha1 plus alpha5 versus alpha2 plus alpha3 subunits account for dissimilarities in behavioral effects in rats? *Prog Neuropsychopharmacol Biol Psychiatry.* 2010 Mar 17;34(2):376-86. doi: 10.1016/j.pnpbp.2010.01.004.

- Savić MM, Milinković MM, Rallapalli S, Clayton T Sr, Joksimović S, Van Linn M, Cook JM. The differential role of alpha1- and alpha5-containing GABA(A) receptors in mediating diazepam effects on spontaneous locomotor activity and water-maze learning and memory in rats. *Int J Neuropsychopharmacol.* 2009 Oct;12(9):1179-93. doi: 10.1017/S1461145709000108.
- Savić MM, Huang S, Furtmüller R, Clayton T, Huck S, Obradović DI, Ugresić ND, Sieghart W, Bokonjić DR, Cook JM. Are GABAA receptors containing alpha5 subunits contributing to the sedative properties of benzodiazepine site agonists? *Neuropsychopharmacology.* 2008 Jan;33(2):332-9. doi: 10.1038/sj.npp.1301403.