MAJA KESIĆ

EXPERT ASSISTANT

INFO

07 September 1983

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ABOUT ME

I am a postdoctoral researcher with 9 years´ experience in the field in neuroscience. During my degree and working I have developed strong research skills, from designing to conducting experiments, especially in animal model techniques. Most of my experience has been within a team environment where communication plays a key role. I am able to organize and manage my own work as well as to demonstrate leadership when required. My academic skills have given me the ability to communicate effectively on paper as well as through presentation.

EDUCATION AND TRAINING

2010 - 2016 PhD in Molecular Biology
University of Zagreb, Faculty of Science, Croatia
- Doctoral thesis: Neurochemical, molecular and behavioral response to pharmacological activation of serotonin system in rats with altered serotonin homeostasis

2017 Annual Flow Cytometry Course 2018: From First Principles to Polychromatic Applications
Children's Hospital Srebrnjak, Department for Translational Medicine, Croatia

2012 Laboratory Animal Science Course, 80 hours, FELASA cat. C equivalent
University of Zagreb, Faculty of Science, Croatia

2012 Supplementary Training on the Application of Ionizing Radiation Protection Measures
Ruđer Bošković Institute, Zagreb, Croatia

2010 Methodological Courses in Biology and Medicine: DNA and RNA
Ruđer Bošković Institute, Zagreb, Croatia

2006 - 2009 Master of Science in Molecular Biology
University of Zagreb, Faculty of Science, Croatia

2002 - 2009 Master of Education in Biology and Chemistry
University of Zagreb, Faculty of Science, Croatia
- Graduation thesis: DNA integrity in broad bean leaf and root cells as an indicator of thallium(I) acetate genotoxicity

WORK EXPERIENCE

2014 - present: Expert Assistant
Ruđer Bošković Institute, Laboratory for Neurochemistry and Molecular Neurobiology, Zagreb, Croatia
- Research in neuroscience, particularly serotonin associated diseases

2010 - 2014: Research Assistant
Ruđer Bošković Institute, Laboratory for Neurochemistry and Molecular Neurobiology, Zagreb, Croatia
- Research in neuroscience, particularly serotonin associated diseases

RESEARCH PROJECTS

2019 - 2022: Associate at the project ˝Influence of maternal metabolic state on placental and neonatal serotonin system: from DNA methylation to protein function˝ (PIs J. Štefulj, NZZ_HrZZ)

2015 - 2019: Associate at the project ˝Serotonergic modulation of obesity: the interdependence of regulatory molecules and pathways˝ (PIs L. Čičin-Šain, NZZ_HrZZ)

2017: Associate at the project ˝Association of maternal emotional state in pregnancy and placental DNA methylation of serotonin-related genes˝ (Catholic University of Croatia; PI J. Stefulj)

2016: Associate at the project ˝Serotonin transporter gene regulation in human placenta and establishment of a biobank for further research˝ (Catholic University of Croatia; PI J. Stefulj)

2013 - 2014: Associate at the project ˝Epigenetics of serotonin signalling: DNA methylation analyses of serotonin transporter, monoamine oxidase B and serotonin receptor 2A˝ (PIs J. Štefulj, P. Zill, mobility grant funded by the Ministry of Science, Education and Sport of Croatia and the German Academic Exchange Service)

2012 - 2013: Associate at the project ˝Transport of maternal serotonin across human placenta: studies on primary endothelial cells of human placental barrier˝ (PIs J. Štefulj, U. Panzenboeck, mobility grant funded by the Ministry of Science, Education and Sport of Croatia and Austrian Agency for International Mobility and Cooperation in Education, Science and Research)

2012 - 2013: Associate at the project ˝Identification of gene pathways involved in serotonergic modulation of body weight˝ (TANITA Healthy Weight Community Trust, Japan)

2010 - 2013: Associate at the project ˝Serotonergic neurotransmission: genes, proteins and behavior˝ (PI: the late prof. B. Jernej, from 2010 PI J. Štefulj, Ministry of Science, Education and Sport of the Republic of Croatia)

SCIENTIFIC VISITS TO FOREIGN INSTITUTIONS

Institute of Pathophysiology and Immunology, Medical University of Graz, Graz, Austria (September 16th- October 6th 2012; March 16th- June 16th 2013)

TEACHING ACTIVITIES

2012-present: Biological psychology I, laboratory exercises (Catholic University of Croatia, Zagreb)

SKILLS

LANGUAGES

Croatian ●●●●●●

English ●●●●●○

German ●●○○○○

Croatian: mother tongue, English: fluent, German: basic knowledge.

COMPUTER SKILLS

Microsoft Office™ tools ●●●●●○

GraphPad Prism ●●●●●○

Publicly available databases ●●●●●○

JOB - RELATED SKILLS

Animal (rat) techniques:

- isolation of the brain regions
- intraperitoneal injections, blood and cerebrospinal fluid withdrawing, measuring of rectal temperature
- behavioral tests for measuring memory (Morris water maze, passive avoidance task), motor behavior (wire hanging test, grip test), locomotion and anxiety (open field test, elevated plus maze test, hole board test, forced swim test)

Neurochemical techniques:

- spectrophotofluorimetric determination of serotonin
- radionuclide method (saturation kinetics of membrane 5HT transporters in platelets and sinaptosome, and receptor binding in sinaptosome)

Biochemical/molecular techniques:

- RNA and DNA isolation, PCR, RT qPCR, gel electrophoresis
- Protein isolation
- Enzime-linked immunosorbent assay (ELISA)
- Comet assay

PUBLICATIONS

Blažević SA, Horvatiček M, **Kesić M**, Zill P, Hranilović D, Ivanišević M, Desoye G, Štefulj J (2017) Epigenetic adaptation of the placental serotonin transporter gene (SLC6A4) to gestational diabetes mellitus. PLoS ONE 12(6): e0179934. https://doi.org/10.1371/journal.pone.0179934

Erjavec I, Bordukalo-Nikšić T, Brkljačić J, Grčević D, Mokrović G, **Kesić M**, Rogić D, Zavadoski W, Paralkar V, Grgurević L, Trkulja V, Čičin-Šain L, Vukičević S (2016) Constitutively elevated blood serotonin is associated with bone loss and type 2 diabetes in rats. PLoS One. 11(2);e0150102. Doi: 10.1371/journal.pone.0150102. eCollection 2016.

Kesić M, Tvrdeić A, Kolarić D, Stojković R, Čičin-Šain L (2015) Serotonergic modulation of pain and analgesic responses: A study in rats with constitutionally altered serotonin transporters. Eur J Pain 19: 508-15

SELECTED ABSTRACT PUBLICATIONS AND CONFERENCES

Kesić M, Kolarić D, Baković P, Štefulj J, Čičin-Šain L (2018) *Brown adipose tissue thermogenesis: relation to constitutive differences in serotonin homeostasis*. Book of Abstracts FEBS3+ ˝From molecules to living systems˝. 217-217 (poster, international peer review, abstract, scientific).

Kesić M, Baković P, Štefulj J, Čičin-Šain L (2018) *Endogenous serotonergic tone as a modulator of metabolic homeostasis and response to metabolic challenge*. Book of Abstracts ˝Serotonin on the Wild Atlantic Way˝. (poster, international peer review, abstract, scientific).

Kesić M, Štefulj J, Čičin-Šain L (2017) *Involvement of BDNF in fluoxetine-induced changes in body weight: studies in Wistar Zagreb-5HT rat model*. Book of Abstracts ˝The 6th Croatian Neuroscience Congress with International Participation˝. 97-97 (poster, international peer-review, abstract, scientific).

Kesić M, Kolarić D, Mokrović G, Čičin-Šain L (2015) *Relationship between thermoregulation, obesity and serotonergic homeostasis: a study in Wistar-Zagreb 5HT rat model*. Book of Abstracts 5th Croatian Congress of Neuroscience. 50-51 (poster, domestic peer-review, abstract, scientific).

Kesić M, Štefulj J, Čičin-Šain L (2015) *Expression of adipokines and their receptors in brain and adipose tissue of rats with genetically altered serotonergic homeostasis*. Book of Abstracts 5th Croatian Congress of Neuroscience. 48-48 (poster, domestic peer-review, abstract, scientific).

Kesić M, Mokrović G, Čičin-Šain L (2014) *Behavioral response in Wistar-Zagreb 5HT model of rats with constitutionally altered serotonin transporter*. PoKusne životinje u znanstvenim istraživanjima. 58-59 (poster, domestic peer-review, abstract, scientific).

Kesić M, Orešković D, Čičin-Šain L (2014) *Obesity phenotype of rats with constitutional hyperactivity of serotonin transporter*. HDBMB2014 ˝The Interplay of Biomolecules˝. 104-104 (poster, domestic peer-review, abstract, scientific).

Kesić M, Čicin-Šain L, Desoye G, Wadsack C, Panzenboeck U, Štefulj J (2013) *Biochemical and pharmacological characterisation of the serotonin transporter (SERT) in primary trophoblasts of the human placentas*. Book of Abstracts 4th Croatian Congres of Neuroscience. 39-39 (poster, domestic peer-review, abstract, scientific).

Kesić M, Tvrdeić A, Čičin-Šain L, (2013) *Pain sensitivity and analgesis response in Wistar- Zagreb 5HT rats with constitutionally altered serotonin transporter*. Abstracts of the 7th Croatian Congress of Pharmacology; in: Periodicum Biologorum 115 (S3). 71-71 (poster, domestic peer-review, abstract, scientific).

Kesić M, Štefulj J, Mokrović G, Čičin-Šain L (2012) *The effect of chronic fluoxetine on anxiety-like behavior and expression of 5HT-related proteins in rats with constitutionally altered 5HT homeostasis*. BMC Pharmacology and Toxicology. (poster, international peer-review, abstract, scientific).

Kesić M, Bordukalo-Nikšić T, Mokrović G, Čičin-Šain L (2011) *Effect of acute injection of fluoxetine in rats with constitutional upregulation/downregulation of platelet serotonin transporter*. SiNAPSA Neuroscience Conference '11 - Book of Abstracts. 87 (poster, international peer-review, abstract, scientific).

AWARDS FOR PARTICIPATION AT SCIENTIFIC CONFERENCES

- 18th Scientific Symposium of the Austrian Pharmacological Society, Graz, Austria (2012)
- SiNAPSA Neuroscience Conference ´11, Central European FENS Featured Regional Meeting, Ljubljana, Slovenia (2011)

MEMBERSHIP

- Member of Croatian Society for Neuroscience (CSFN) - member of FENS
- Croatian Genetic Society
- Croatian Society of Biochemistry and Molecular Biology
- Croatian Laboratory Animal Science Association

REFERENCES

Čičin-Šain Lipa, PhD, Division of molecular biology, Ruđer Bošković Institute, Zagreb (Lipa.Cicin.Sain@irb.hr , +385 1 456 1045).
Štefulj Jasminka PhD, Division of molecular biology, Ruđer Bošković Institute, Zagreb (stefulj@irb.hr +385 1 457 1350).