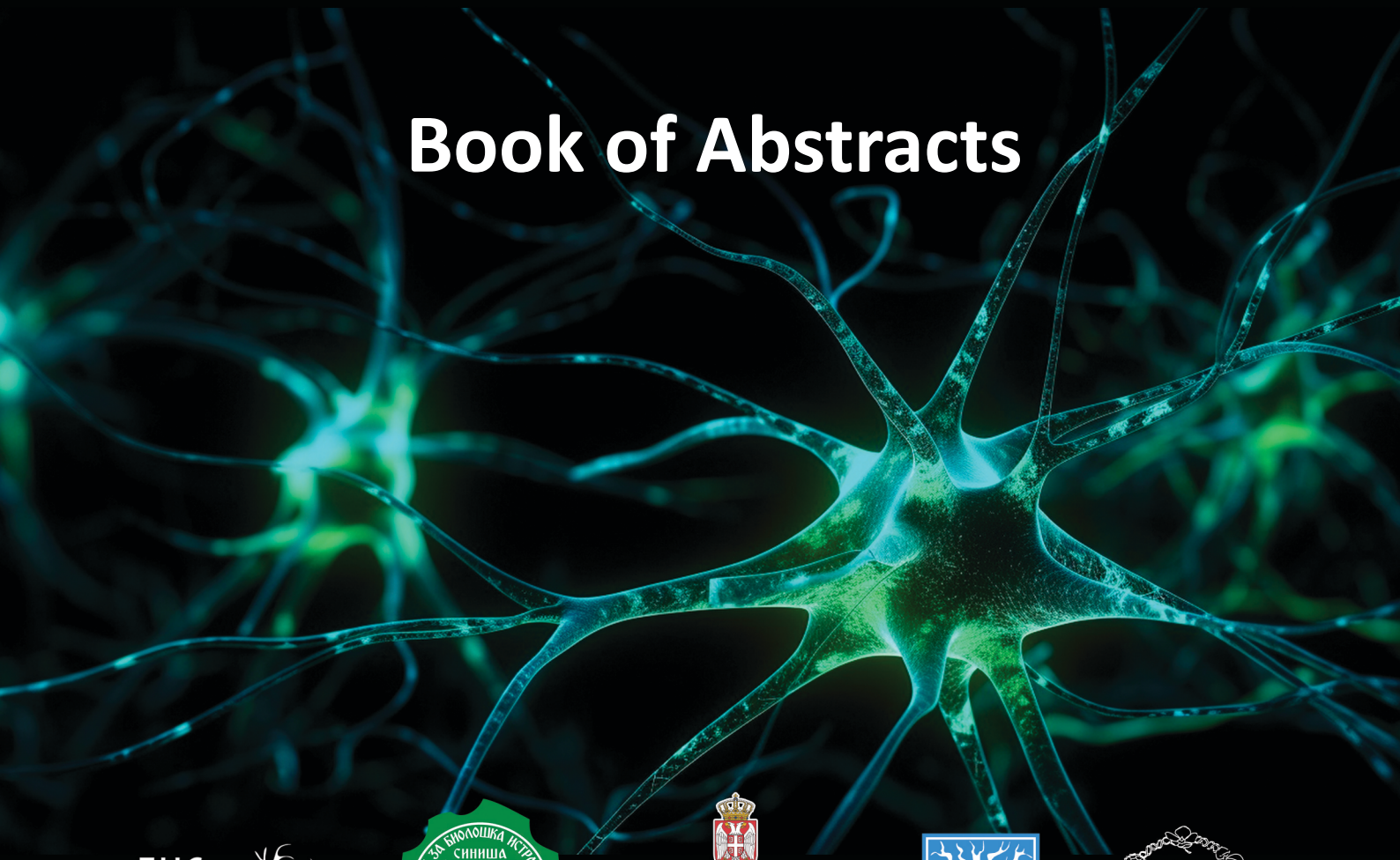
ДНС Друштво за неуронауке Србије
SNS Serbian Neuroscience Society

8

Congress Serbian Neuroscience Society

31 May - 02 June
Belgrade Youth Center
Belgrade



Book of Abstracts

ДНС SNS

Институт за биолошка истраживања Синиша Станковић ИБИСС Универзитет у Београду

Република Србија Министарство науке, технолошког развоја и иновација

Универзитет у Београду Медицински факултет University of Belgrade Faculty of Medicine

Labena

PROMEDIA Laboratory supply specialists

ZEISS

8th CONGRESS OF SERBIAN NEUROSCIENCE SOCIETY with international participation

31 May – 2 June 2023. Belgrade, Serbia - BOOK OF ABSTRACTS

Published by:
Serbian Neuroscience Society
Bulevar despota Stefana 142, 11060 Belgrade, Serbia

Editors
Selma Kanazir and Danijela Savić

Assistant editors:
Anica Živković
Željko Pavković

Technical editor:
Anđela Vukojević

Graphic design:
Olga Dubljević, Irina Veselinović

ISBN: 978-86-917255-4-9

CONGRESS ORGANIZERS

Serbian Neuroscience Society

University of Belgrade, Institute for Biological Research "Siniša Stanković", National Institute of the Republic of Serbia

CONGRESS CO-ORGANIZERS

University of Belgrade, Faculty of Medicine

University of Belgrade, VINČA Institute of Nuclear Sciences, National Institute of the Republic of Serbia

University of Belgrade, Faculty of Biology

SPONSORED BY

Labena

Promedia

Zeiss

SCIENTIFIC COMITTEE

Chair:

Selma Kanazir

Members:

Aleksandra Isaković
Carmen Sandi
Cláudia Nunes Dos Santos
Danijela Savić
Dragomir Milovanović
Elka Stefanova
Frank Jessen
Ivanka Marković
Jelena Radulović
Milena Stevanović
Miroslav Adžić
Nadežda Nedeljković
Nataša Lončarević
Nina Vardjan
Panayiota Poirazi

ORGANIZING COMITTEE

Chair:

Ivana Bjelobaba

Members:

Danijela Savić
Milena Jović
Jelena Ćirić
Smilja Todorović

In memory of Acad. Prof. Ljubisav Rakić

Contents:

Brain Metabolism & Dietary Interventions

Brain Disorders – From Genetics to Markers

Neuroimmunoendocrine Interactions

Poster Sessions

Brain Stimulation & Signalling, Phase Separation and Open Data

Brain Metabolism & Dietary Interventions

Brain Disorders – From Genetics to Markers

Neuroimmunoendocrine Interactions

SOX transcription factors – choosing between stemness and neuronal differentiation

Marija Švirtlih

Laboratory for Human Molecular Genetics, Institute of Molecular Genetics and Genetic Engineering, University of Belgrade, Belgrade, Serbia

The *SOX* genes show properties of both classical transcription factors and architectural components of chromatin. As a main part of regulatory networks that consist of transcription factors, epigenetic modifiers and microRNAs, they govern diverse cellular processes during embryonic and adult neurogenesis, such as maintaining the multipotency of neural stem cells, cell fate decision and terminal cell differentiation.

The sequential expression of the SoxB, SoxC, SoxD, SoxE and/or SoxF group members in differentiating and mature neurons, oligodendrocytes and astrocytes is essential for their identity and survival. Several studies revealed that deregulated expression of these proteins had significant impact on the neuronal plasticity. Results of our research using both *in vivo* and *in vitro* model systems to study neurogenesis in different brain pathologies, demonstrated decreased expression of SOXB transcription factor in neural stem/progenitor cells in early stages of neurodegeneration or following ischemia- related injury that has significant impact on regeneration capacity. Recently, it has been demonstrated that neural stem cells from SVZ are cells of origin of glioblastoma, the most common and devastated brain tumor. Our investigation of SOXB showed deregulated expression of SOX3 protein also in glioblastoma samples, compared to the expression in non-tumoral brain tissues while exogenous overexpression of this gene promoted the malignant properties of glioblastoma cells.

Despite numerous data implicating the key role of *Sox*/*SOX* genes in regulation of neurogenesis, contribution of *S*OX genes in various brain pathologies is still not clear. Future studies are needed to evaluate them as a potential targets in therapeutic and regenerative strategies.

Acknowledgment: This study was supported by the Ministry of Education, Science and Technological Development, Republic of Serbia (Grant No 173051), Ministry of Science, Technological Development and Innovation of the Republic of Serbia (Contract No. 451-03-47/2023-01/200042), Serbian Academy of Arts and Sciences (F172 and F24) and Science Fund of the Republic of Serbia, Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers (6436225).