

JUNE 2021

BOOK OF ABSTRACTS

Programme and abstracts

*Xth Miniconference of PhD. students of
Centre of Experimental Medicine*

7TH OF JUNE

www.cem.sav.sk

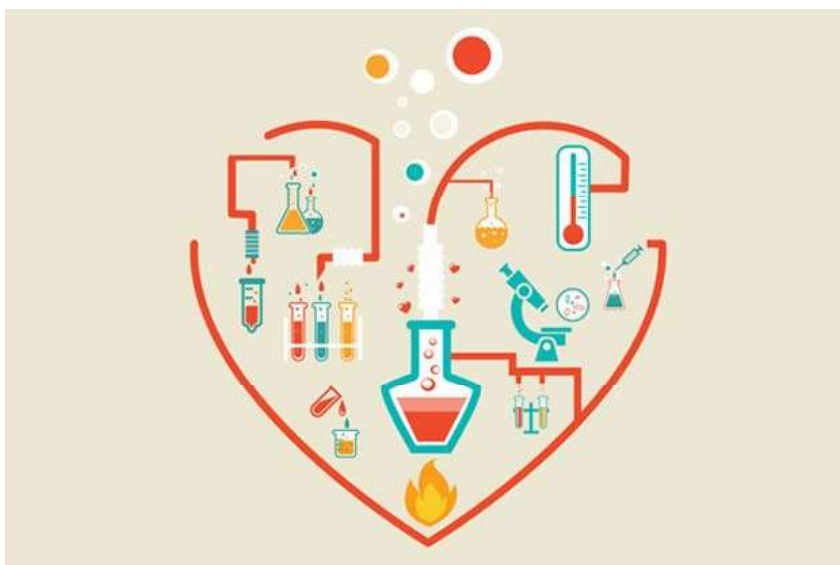
JUNE 2021

BOOK OF ABSTRACTS

*Xth Miniconference of PhD. students of Centre of
Experimental Medicine*

JAKUB.BENKO@SAVBA.SK
KRISTINA.CSATLOSOVA@SAVBA.SK
DOMINIKA.MICHALIKOVA@SAVBA.SK
MICHAELA.PIESOVA@SAVBA.SK
MATUS.SYKORA@SAVBA.SK

Organising committee



ORGANISED BY

Centre of Experimental Medicine, Slovak Academy of Sciences

Institute of Experimental Pharmacology & Toxicology

Institute for Heart Research

Institute of Normal and Pathological Physiology

DÚBRAVSKÁ CESTA 9, 841 04 BRATISLAVA

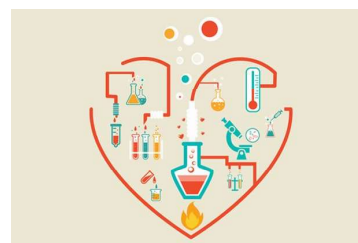
ISBN 978-80-89991-06-8 (ONLINE VERSION)

Registered by the Ministry of Culture of the Slovak Republic

7TH OF JUNE 2021

PROGRAMME

Deadline for abstract submission - 26th of May



9:00 - 9:15	OPENING OF MINICONFERENCE
9:15 - 9:30	Başak Güneş Aydemir: The effect of metabolic changes on the vasoregulatory role of the nitroso and sulfide signaling pathway
9:30 - 9:45	Kapoor Sonam: The effect of pilocarpine in the status epilepticus of immature rats
9:45 - 10:00	Bořanská Barbora: Matrix metalloproteinases and their role in mechanisms underlying effects of quercetin on heart function in Zucker diabetic fatty rats
10:00 - 10:15	Golas Samuel: The vasoactive role of perivascular adipose tissue and the sulfide signaling pathway in a nonobese model of metabolic syndrome
10:15 - 10:30	Mičurová Andrea: High blood pressure affects pharmacokinetics of polyethylene-coated iron oxide nanoparticles in rats
10:30 - 10:45	Chrastina Martin: Administration of Crocus sativus extract in monotherapy and in combination with metotrexate improved the clinical manifestation of adjuvant arthritis in rats
10:45 - 11:00	COFFEE BREAK
11:00 - 11:15	Kissová Lea: Activation mechanism of calcium pump SERCA by substance CDN1163 – hypothesis and theoretical prediction
11:15 - 11:30	Baloová Alexandra: Behavioral consequences of maternal depression and antidepressant treatment of rats during perinatal period
11:30 - 11:45	Pružinská Katarína: Combination therapy of methotrexate and carnosis acid in rats with adjuvant arthritis
11:45 - 12:00	Vinas Mireia: Effects of pre-gestational stress and antidepressant mirtazapine treatment on neurobehavioral development of rat offspring
12:00 - 12:15	Andelová Katarína: Increased thermogenesis impacts the heart of spontaneously hypertensive rat and responses to altered thyroid status
12:15 - 12:30	Besterciová Dominika: Modulation of lexical-semantic processing by cerebellar TDCS
12:30 - 13:15	LUNCH BREAK
13:15 - 13:30	Ezgi Dayar: Antioxidant effect of Lonicera caerulea L. in the cardiovascular system of obese Zucker rat
13:30 - 13:45	Andelová Natália: How do pseudohypoxic conditions affect the cardiac mitochondrial proteome?
13:45 - 14:00	Bodo Pavol: Novel aldose reductase inhibitors based on triazidoindole scaffold: synthetic chemistry and acid-base properties
14:00 - 14:05	CLOSING OF MINICONFERENCE

THE EFFECT OF PILOCARPINE IN THE STATUS EPILEPTICUS OF IMMATURE RATS

SONAM KAPOOR^{1,3}, MAREK NEMCOVIC², ZUZANA BRNOLIAKOVA¹, JAKUB OTAHAL³

1 Institute of Experimental Pharmacology and Toxicology, Centre of Experimental Medicine, Slovak Academy of Sciences, Bratislava, Slovak Republic

2 Chemistry Institute, Slovak Academy of Sciences, Bratislava, Slovak Republic

3 Institute of Physiology, Czech Academy of Sciences, Prague, Czech Republic

Perinatal hypoxic ischemic insult is a devastating paediatric neurologic condition. There are limited diagnostic and therapeutic approaches, thus it's a socio-economic burden. Glycosylation is the enzymatic addition of oligosaccharides to proteins and lipids. Moreover, altered glycosylation is present in many pathophysiological conditions such as cancer, inflammation, autoimmune and aging [1]. The main goal of our study was to characterize the glycoprofiles derived from blood sera of immature rats treated with pilocarpine in the status epilepticus (SE) model. To induce Li-Pilo (lithium-pilocarpine) SE, male Wistar rat pups were pretreated with lithium chloride (127 mg/kg, n=11) on the 11th postnatal day. After 24 hours, the lithium pretreated pups were administered either with Pilocarpine i.p. (35 mg /kg b.w., n=6) (Li-Pilo) or saline (0,9% NaCl, n=5) in control group (Cont). On the 19th postnatal day, serum was collected [2]. The blood serum samples were treated according to the standard pre-analytical procedures and the investigation of their N-glycoprofile was done by mass spectrometry analytics on MALDI TOF/TOF instrumentation [3]. Analyzed data were processed by FlexAnalysis (Bruker Daltonics) and GlycoWork Bench [4] software. There were identified 21 N-glycans that were appointed and sorted with special impact on their structural type. In Li-Pilo group we found significantly lower portion on non-sialylated N-glycans compared to the Cont group. Our preliminary data have designated the fundamental basis for further research of glycosylation alterations in the status epilepticus in immature rats.

Acknowledgement: This study was supported by grants: EU project ITMS2014+313021Y920, APVV-18-0336 and VEGA 2/0104/21.

References:

- [1] Dall'Olio F., Vanhooren V., Chen C.C., et al. (2013) Ageing Res. Rev. 12, p. 685
- [2] Folbergrová J., Ješina P. & Otahal J. (2021) Front. Neurosci. 15, Article. 634378
- [3] Pazitna L., Nemcovic M., Pakanova Z., et al. (2020) J. Biotechnol. 314-315, p 34
- [4] Ceroni A., Maass K., Geyer H., et al. (2008) J. Proteome Res. 7(4), p. 1650



Medzinárodné štandardné číslo knihy
International Standard Book Number



Centrum experimentálnej
medicíny SAV
Ústav normálnej a
patologickej fyziológie SAV

Dúbravská cesta 9
841 04 Bratislava

NB-OD1/1716/2021-Š1

03.06.2021

Na titul: Miniconference of PhD. students. X th Miniconference
of PhD. students of Centre of Experimental Medicine

prideľujeme **ISBN 978-80-89991-06-8**

s čiarovým kódom **EAN 9788089991068**

S pozdravom

PhDr. Ľudmila Rohoňová, v.r.
riaditeľka Národnej bibliografie