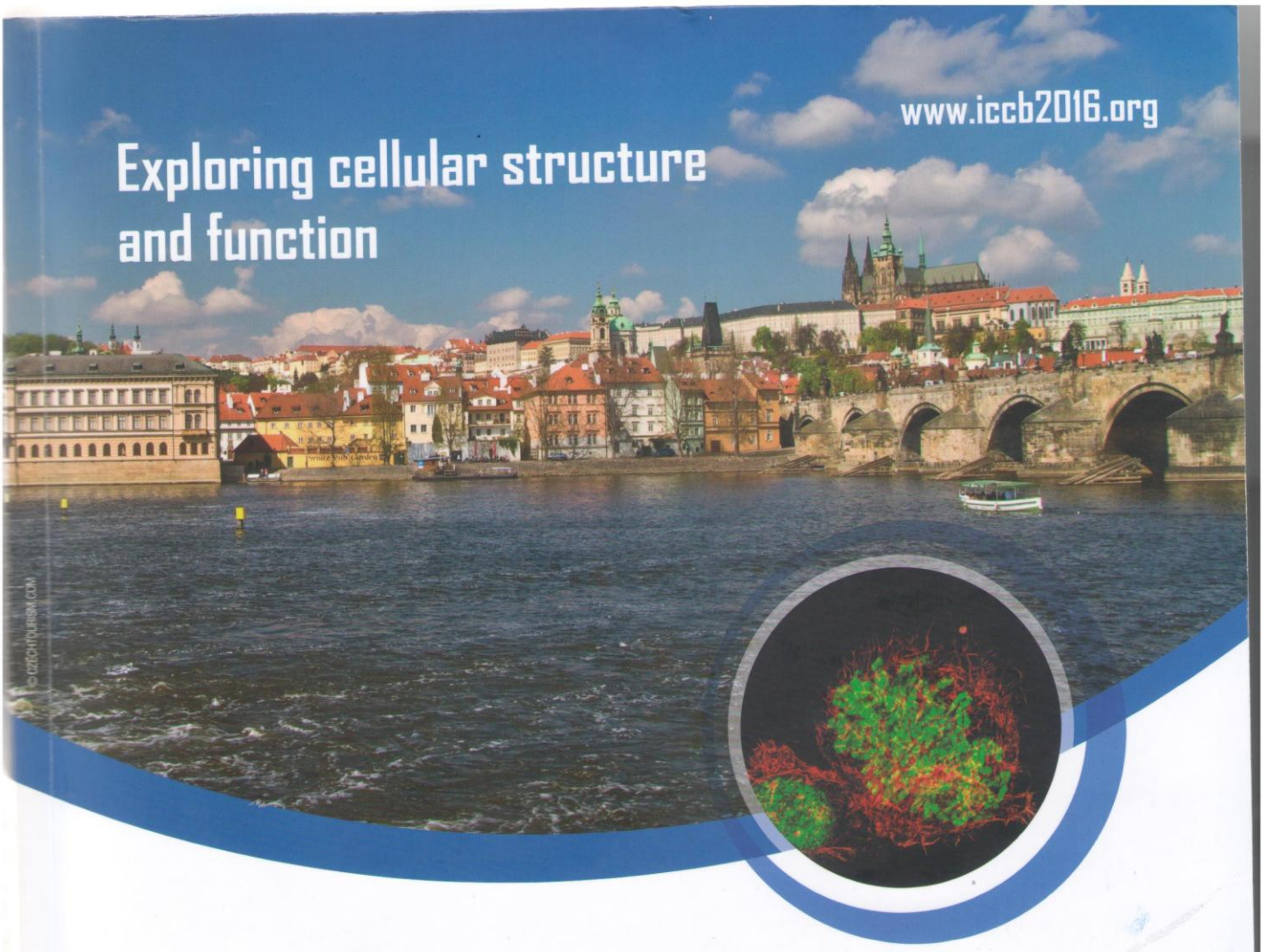

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Session III – Other

24, 2016, 13:00 – 14:30 | Poster area – Registration

Solving the Mystery of the Two Adenosine Deaminases in Humans: ADA1 and ADA2 Bind to Different T Cell Subsets
Yulia Mukhenko (Finland)

Platelet Proteome Alterations Induced by Aspirin Treatment in Cardiovascular Disease Patients
Jaromír Novak (Czech Republic)

Characterization of Glutamate Carboxypeptidase II Knock-out Mice Generated by TALEN Technology
Barbora Norlova (Czech Republic)

Distribution of CD46 and β1 Integrin Molecules with Respect to Different Membrane Structures of the Sperm Head
Hana Sebkova (Czech Republic)

Phthalocyanines and Porphyrins as an Antiprion Compounds in *In Vitro* Photodynamic Treatment
Marie Kostelanska (Czech Republic)

Delivery of Human Mesenchymal Stem Cells into the Mouse Brain Using the Intra-Arterial Route
Na Kyung Lee (South Korea)

Study of the Complex of Enterosorbents on the Basis of Carbon Material and Plant Fibers as a Geroprotector
Tamara Shalakhmetova (Kazakhstan)

Primary Culture of Tardigrade Storage Cells from *Richtersius Coronifer* Richters, 1903
Veronika Czernekova (Czech Republic)

Novel Fluorescent Dyes - Synthesis and Application
Jaroslav Kozak (Czech Republic)

Proliferative Potencies of Highly Differentiated Sertoli Cells
Yuliia Mudzhiri (Russia)

Intermittent Hypoxia Induced Upregulated Biosynthesis of Norepinephrine and Increased Expression Level of Monoamine Oxidases-A Mediates Cell Death in SH-SY5Y Cells
Jinge _ China)

P 396 - Using of the Complex of Enterosorbents on the Basis of Carbon Material and Plant Fibers as a Geroprotector

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Search and development of methods and drugs prolonging life is an urgent and priority issue. It is proved that enterosorption can be an effective way to increase life expectancy. The purpose of the research was to examine the complex of enterosorbents on the basis of carbon material and plant fibers for using as a geroprotector.

70 white outbred male rats at 24 months age with body weight of 300–320 g were divided into 7 groups, which received: 1 - standard food, 2 - food with 0.1 g/kg of carbon sorbent "Carboline", 3 – food with 0.5 g/kg of the lyophilized fibers of pumpkin, 4 - food with 0.5 g/kg of lyophilized fibers of topinambur, 5 - food with "Carboline" and pumpkin fibers, 6 - food with "Carboline" and topinambur fibers, 7 - food with "Carboline", pumpkin and topinambur fibers. The animals were weighed daily before feeding. The rats were euthanized through each month of the experiment, and visceral organs were taken for biochemical and pathologic studies.

Animals from the group 1 lived 26±0,3; 2–4 groups - 29±0,4; 5–7 groups - 31±0,2 months. Despite the greater life span of rats from 2–7 groups treated with enterosorbents, their weight increased slightly by 5–10%. Destructive processes in visceral organs of the rats from the group 1 developed progressively and ended with pulmonary edema, hemorrhage, and infarction, while in the rats from groups 2–7 pathological processes manifested just before the natural death. In the liver and serum of the animals from groups 2–7 the content of malonic dialdehyde and lipid hyperoxides, total lipids and triglycerides was 78–150% ($P \leq 0.5$) lower in comparison with the same indicators in animals of the group 1. Herewith, the activity of cytochrome P450, superoxide dismutase, catalase, glutathione-S-transferase, on the contrary, was at 80–210% ($P \leq 0.5$) above.

Thus, it was found that the basis for the life span prolonging effect of the studied enterosorbents complex was its antioxidant and detoxifying activity. Probably, this complex contributes the capture and removal of lipids, triglycerides and lipid peroxidation products, and reduces formation of free radicals. This indicates the potential of this complex as a geroprotector.

P 397 - Primary Culture of Tardigrade Storage Cells from *Richtersius Coronifer* Richters, 1903

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Coelomocytes are macrophage-like cells in the body cavity or the coelomic spaces of many invertebrates and play major roles in their physiology and immunology. Their structure, function and diversity, however, is still poorly understood.

Tardigrades are micrometazoans inhabiting a wide variety of environments and with an ability to survive extreme conditions. Coelomocytes ("storage cells") represent an important part of tardigrade physiology, storing and distributing energy and possibly also having immunological functions. Few studies of tardigrade cell biology have been reported and neither primary nor continuous cell cultures have been established. Tardigrades are normally found and also cultured in an environment rich in microorganisms, some of which may even be of symbiotic value.

In this study we have tried to establish a primary culture of storage cells in the eutardigrade *Richtersius coronifer*. Different cell media and concentrations of fetal bovine serum (FBS) were tested. Extracting cells from the tardigrades in an antiseptical environment is challenging since it has to be done under a microscope and contamination from the tardigrades surface is also a problem. To avoid this we tried culturing with high concentrations of antibiotics and antimycotics. We managed to keep the cells viable for up to 18 days in Grace insect medium with 10% FBS at 20–22°C. The medium was changed every third day. 10x Antibiotic-Antimycotic and 5x of Penicillin-Streptomycin were used to minimize contamination. These concentrations reduce the bacterial abundance, but contamination with fungi was still an issue. Cell morphology evaluation was performed daily and no obvious toxic effects on the cells was observed. Cell viability and cell division were evaluated with Trypan blue staining and cell counting in a haemocytometer. The results indicate that the cells are viable and that some cell division occurs, however more studies need to be performed to confirm this. Still, this study provides the first evidence that primary cultures of storage cells from tardigrades are possible to establish, but the culturing method has to be refined to avoid contamination.