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**COST MC Chair: Prof Erich Gnaiger, erich.gnaiger@i-med.ac.at**

**COST STSM Reference Number: COST-STSM-CA15203-35757**

**Period: 2017-01-15 to 2017-04-15**

**COST Action: CA15203**

**STSM type: Regular (from Slovakia to Austria)**

**STSM Applicant: Dr Beata Velika, Faculty of Medicine, Košice (SK), bvelika@gmail.com**

**STSM Topic: The human blood cells as study model of mitochondrial respiration and H<sub>2</sub>O<sub>2</sub> production.**

**Host: Erich Gnaiger, Medical University of Innsbruck, Innsbruck (AT), erich.gnaiger@i-med.ac.at**

**Budget Request: Year-2017**

Travel	300 Euro
Subsistence (hotel/meals)	0 Euro
Total	300 Euro

**Short CV:**

I work as Research specialist at the University of Pavol Jozef Safarik in Kosice, Department of Medical and Clinical Biochemistry, Faculty of Medicine, Slovakia. During my study and work I specialized to fluorescence spectroscopy method, I have experiences with measuring of SFF, EEM, synchronous spectra of different biological fluids, and I have experiences with different isolation methods, including mitochondria isolation, and measuring of their native fluorescence and respiration by Clark electrode.

**Work Plan Summary:**

The standardization of the procedures I work as Research specialist at the University of Pavol Jozef Safarik in Kosice, Department of Medical and Clinical Biochemistry, Faculty of Medicine, Slovakia. During my study and work I specialized to fluorescence spectroscopy method and molecular biology methods. I have experiences with measuring of SFF, EEM, synchronous spectra of different biological fluids, and only basic experiences with DNA, RNA isolation, PCR, and cell lines. how to isolate blood cells and testing the different conditions of freezing, testing appropriate media for cryopreservation (10, 20, 30% DMSO in FCS). Testing the proper cell density at which cells should be stored (concentrated, diluted) and the time, for how long the cells can be maintained in a cryopreserved state. Testing and Optimization of the thawing procedure of the cells, optimization of the protocols with defined substrate combinations, uncoupler and inhibitor titrations (SUIT - substrate-uncoupler-inhibitor titration protocol), and measurement of respiration in combination with fluorescence methods. Evaluation of the respiration and H<sub>2</sub>O<sub>2</sub> production of permeabilized blood cells applying the high-resolution respirometry with using the Oxygraph 2k and the O<sub>2</sub>k-Fluo LED2-Module, in collaboration with experts in the OROBOROS laboratory.

I request the approval of a COST Short Term Scientific Mission as described above

Applicant:

Dr Beata Velika                      31 Oct 2016



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