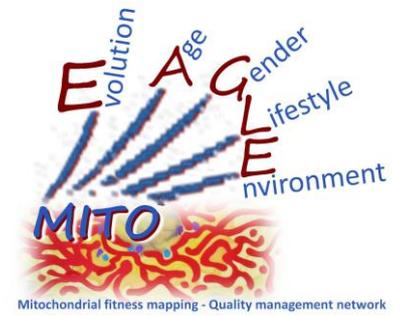


COST Action CA15203 **MitoEAGLE**
Evolution - Age - Gender - Lifestyle – Environment: mitochondrial
fitness mapping



The MitoEAGLE COST action CA15203 knowledge management network is a strategic innovation to develop harmonization protocols towards generating a rigorously monitored data repository on mitochondrial respiratory function. In Working Group 2 (WG2) we are dedicating our efforts to collect information, report the data in a standardized format and write review articles related to mitochondrial physiology in skeletal and cardiac muscles under these premises.

I am leading the work that we have initiated a year ago in skeletal muscle during our first annual meeting in Barcelona (Barcelona ES, 2017 Mar 21-23. Mitochondrial fitness mapping: Conference, Working Groups, and MC meeting - COST Action MitoEAGLE). During this meeting, we agreed that it will be very difficult to get any conclusion and standardization from previous publications reporting mitochondrial respiratory capacity data from skeletal muscle. Therefore, in July (Oberurgl AT, 2017 Jul 27-30. 10th MitoEAGLE Workshop WG1-4) we decided to collect data for a specific mouse strain (C57Bl6J, most commonly used), specific muscle (soleus) where all labs followed the same experimental procedure and used the same substrate, uncoupler, inhibitor titration (SUIT) protocol. We suggested running the experiments initially in few groups to check whether the experimental procedure works similarly in different labs and the results obtained are as expected (low variability among labs). The idea was to collect this information from 5-7 groups and present it during our next meeting in November (Hradec Kralove CZ, 15-18 Nov 2017. 12th Conference on Mitochondrial Physiology: The role of mitochondria in lifestyle and metabolic syndrome - COST MitoEAGLE perspectives and MitoEAGLE WG and MC Meeting)

After the analysis and the critical discussion of the collected results, we observed some potential aspects which could trigger the variability found among some groups of the pilot study. This is the reason why some additional studies were performed to decrease the variability before an open call for collecting data around the world is performed. After the satisfactory completion of these additional experiments, it is time to move our project forwards aiming to generate reference or standard values for all researchers involved in mitochondrial respiration (any platform) using permeabilized skinned muscle fibers.

Any research group interested in joining us in this endeavor is more than welcome. Reply to this email in the next two weeks and we will send to you all the details to perform the experiments. The potential deadline to receive the results is July 31st, 2018.

In summary, the task to perform is:

Perform a protocol to obtain respirometry reference values in permeabilized skeletal muscle fibers.

Mouse strain: C57BL6 J from Envigo

Gender: male ($N=4$) and female ($N=4$), total $N=8$

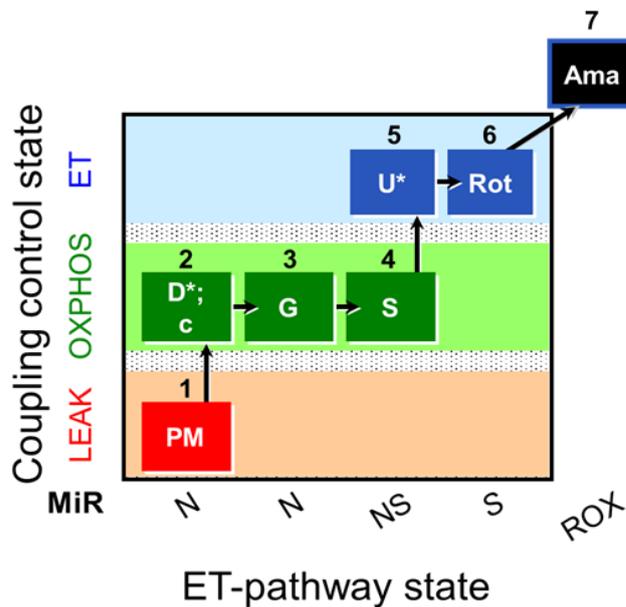
Age: 14-16 weeks (mouse)

Skeletal muscle type: soleus

We will supply precise information how to perform skeletal muscle fibers permeabilization.

SUIT protocol:

SUIT 8 (<http://www.bioblast.at/index.php/1PM;2D;3G;4S;5U;6Rot>)



Pyruvate (P), malate (M), ADP with $MgCl_2$ (D), cytochrome c (c), glutamate (G), succinate (S), FCCP/CCCP (U), rotenone (R), and antimycin A (Ama).

Please contact me if you have any comments or questions here: pgarciaroves@ub.edu

I hope to hear from you soon.

Warmest regards

Pablo

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