



## **WG4: Blood Cells and Cell lines**

### **MITOEAGLE data repositories (from WG2-4)**

1. Deposit post-hoc datasets related to articles already published on topics of WG 2-4 by Consortium members on locations accessible for the Consortium.
2. Connect published articles to deposited datasets, using generally accessible tools such as PubMed Commons (<http://www.ncbi.nlm.nih.gov/pubmedcommons/>).
3. Along with development of SOPs, implement advance public deposition of protocols (Begley, Ioannidis 2015).
4. Deposit datasets with submitted manuscripts and finally connect these using tools such as PubMed Commons.

### **Milestones**

1. Consensus on protocols, reporting schemes and work assignments.
2. Completed SOPs for cell preparation & laboratory protocols.
3. Application study finished and data transmitted to MITOEAGLE data repository.
4. Publication finished.

## **Deliverables**

1. SOPs for blood cell separation and respirometric characterisation open for the research community.
2. MITOEAGLE data repository for comparative data evaluation, planning of future studies, data mining.
3. Publication with a set of reference data.

# 1) Consensus protocols for blood cells (Verona Innsbruck Poznan Lund)

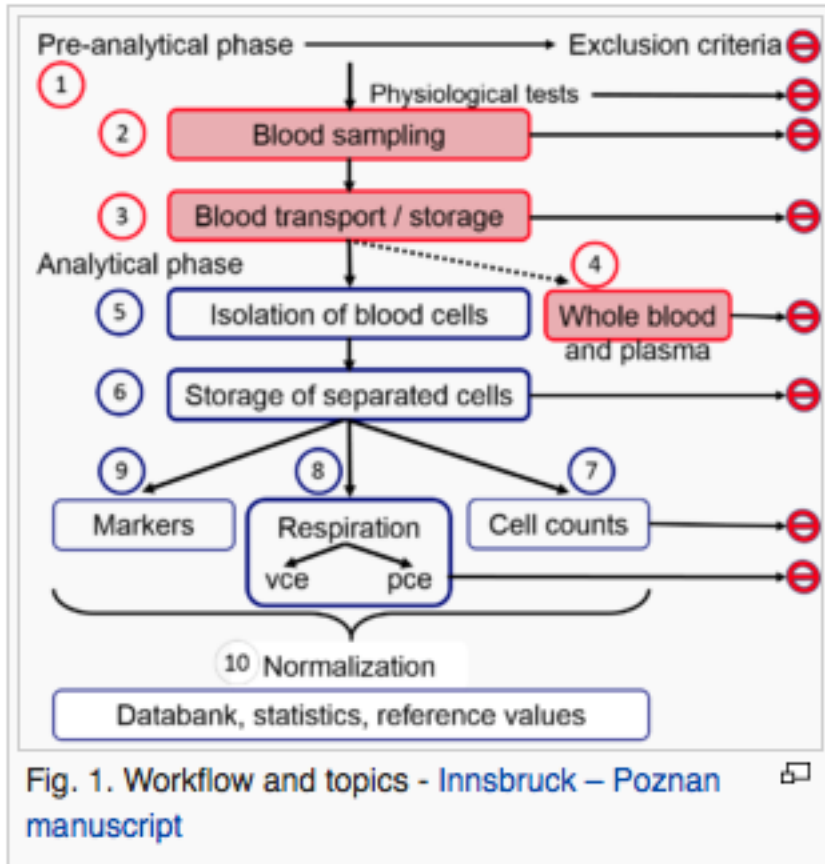


Fig. 1. Workflow and topics - Innsbruck – Poznan manuscript



1) Consensus protocols for blood cells  
(Verona Innsbruck Poznan Lund)

Poznan team:

1/ We continue collecting data on healthy controls respiration in PBMCs using ROUTINE, LEAK, ETS and ROX protocols

2/ we compare the effect of EDTA and heparin used as anticoagulants on respiration of PBMCs

3/ we performed the analyse of the expression of interferon gamma in PBMCs as a marker of their activation and correlated it with respiration

4/ we analyse the volume of intact PBMCs in the medium using 3D Explorer microscope (3D laser microscope cells tomography)

2) Data repository for comparative data evaluation, planning of future studies, data mining

**WG4:**

Task 1

Please provide details of experience, current work/interest, data that can be made available to the group (published/unpublished)

| <b>Name</b>    | <b>cell type experience</b><br><br><b>preparation protocols/<br/>mitochondrial function</b>                    | <b>current interest</b>   | <b>Own<br/>published<br/>data &amp;<br/>protocols<br/>(ref)</b> | <b>un-published<br/>data &amp;<br/>protocols that<br/>can be made<br/>available(attach<br/>as pdf)</b> |
|----------------|--|---|---|--|
| Nicoleta Moiso | Models of Parkinson's<br>Human fibroblasts,<br>drosophila, mouse<br>(respiration, ROS, ATP,<br>Mito potential) | Blood cells from fibroblasts PD<br>patients and controls and<br>dopaminergic neurons derived from<br>stem cells; genetic and pharmacologic<br>cellular models of PD.      | yes   | yes  |
| Maria Monsalve | Cell Type experience:<br>Cell lines: C2C12,<br>NIH/3T3, COS7, 293T,<br>293A, FAO<br>Primary cells: HUVEC,      | Humans: Mitochondrial biomarkers for<br>personalized medicine. T2D, cancer<br>(thyroid).<br>Preclinical: Role of PGC-1a in tumor<br>development. Alterations in oxidative | yes   | yes  |

# Data collection for comparative data evaluation, planning of future studies, data mining

31 participants

WG4:

Task 1

Please provide details of experience, current work/interest, data that can be made available to the group (published/unpublished)

| Name | cell type experience<br>preparation protocols/<br>mitochondrial function | current interest | Own<br>published<br>data &<br>protocols<br>(ref) | un-published<br>data &<br>protocols that<br>can be made<br>available(attach<br>as pdf) |
|------|--|------------------|--|--|
|------|--|------------------|--|--|

## Follow up

Group participants on interest in particular cell types so those collecting primary data can go to the relevant source; make this list of interest available

**Attempt to identify groups that work on the same cell line to compare data for cross reference**

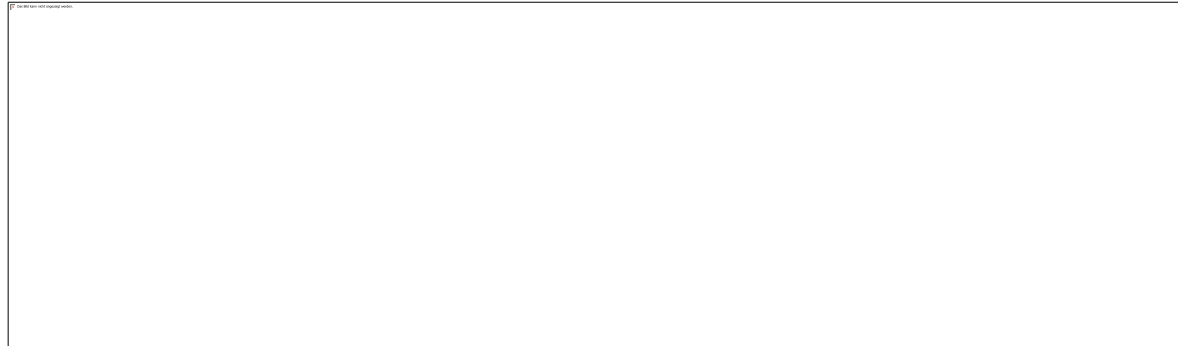


## Task

### Cell lines (control and disease condition):

- Human fibroblasts, Mouse fibroblasts
- SH-SY5Y
- HeLa, HEK293

## Quantitative data



| <b>Respiration</b>  | <b>ATP</b> | <b>ROS</b> | <b>MitoPotential</b> |
|---|------------|------------|----------------------|
| Higher than control (1), Lower than control (-1), No Change (0) |            |            |                      |