

O2k-Workshop on High Resolution Respirometry

IOC 162

Substrate-Uncoupler-Inhibitor-Titration (SUIT) protocols: Reference protocols 1 and 2

**Alba Timón-Gómez, PhD, *Mitochondrial Mage*
Oroboros Instruments, Innsbruck, Austria**

alba.timon@oroboros.at

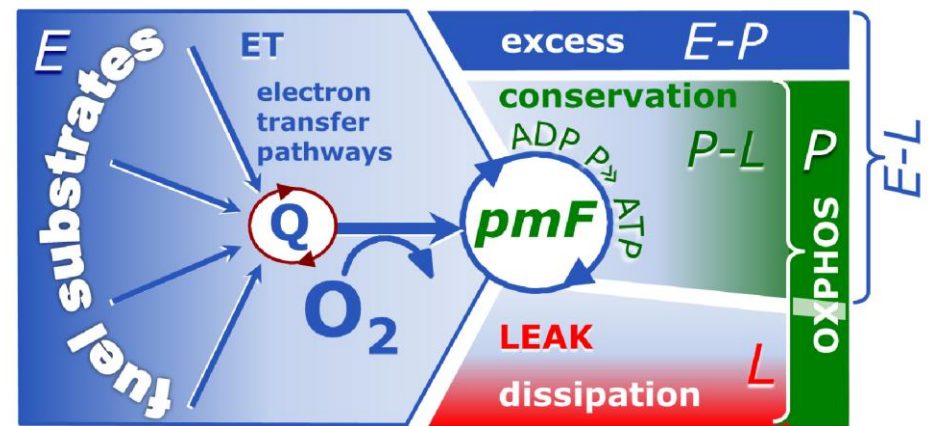
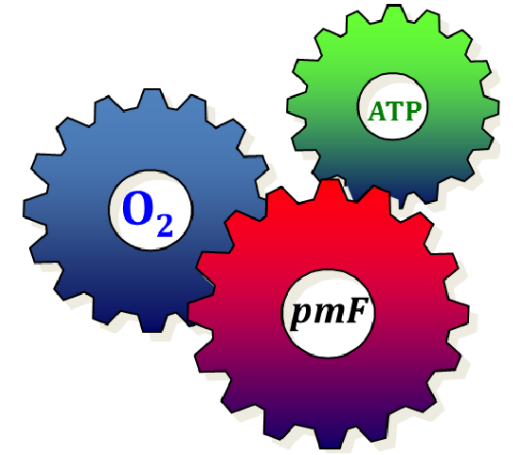
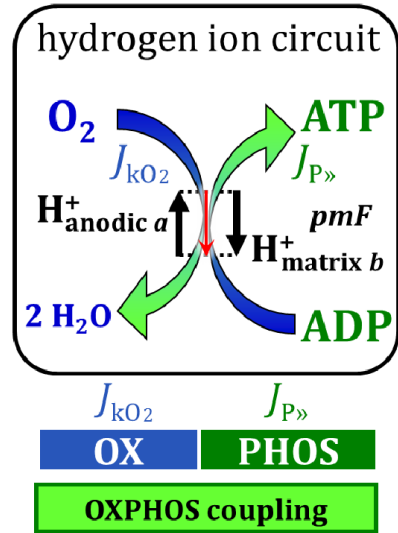
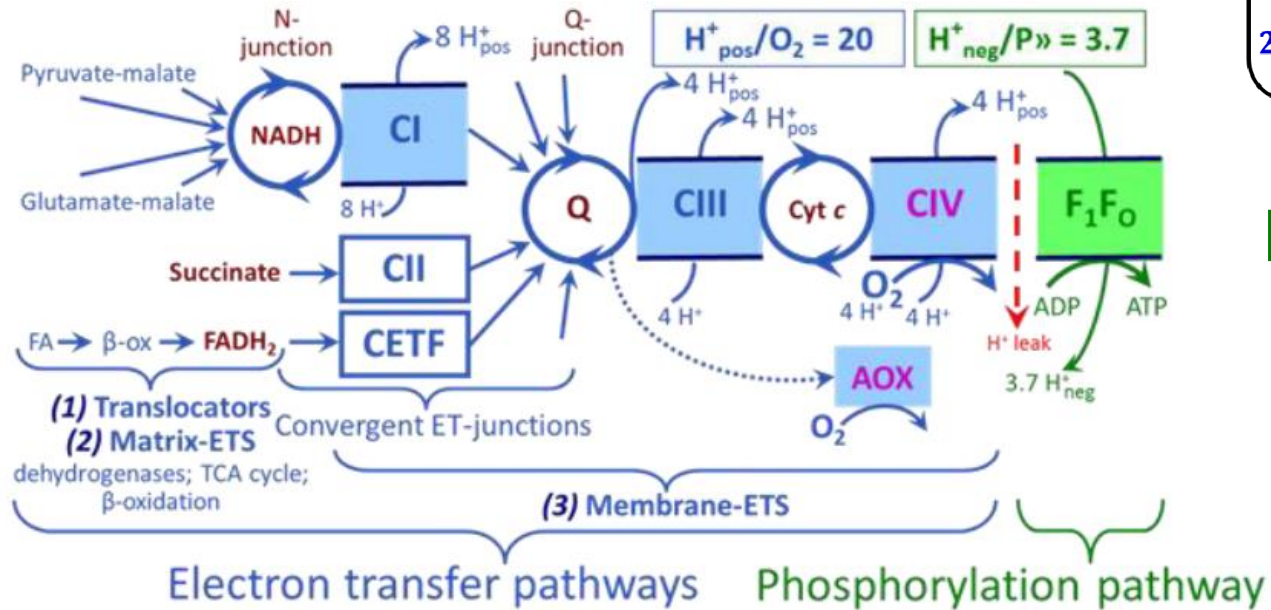
High-resolution respirometry (HRR): NextGen-02k



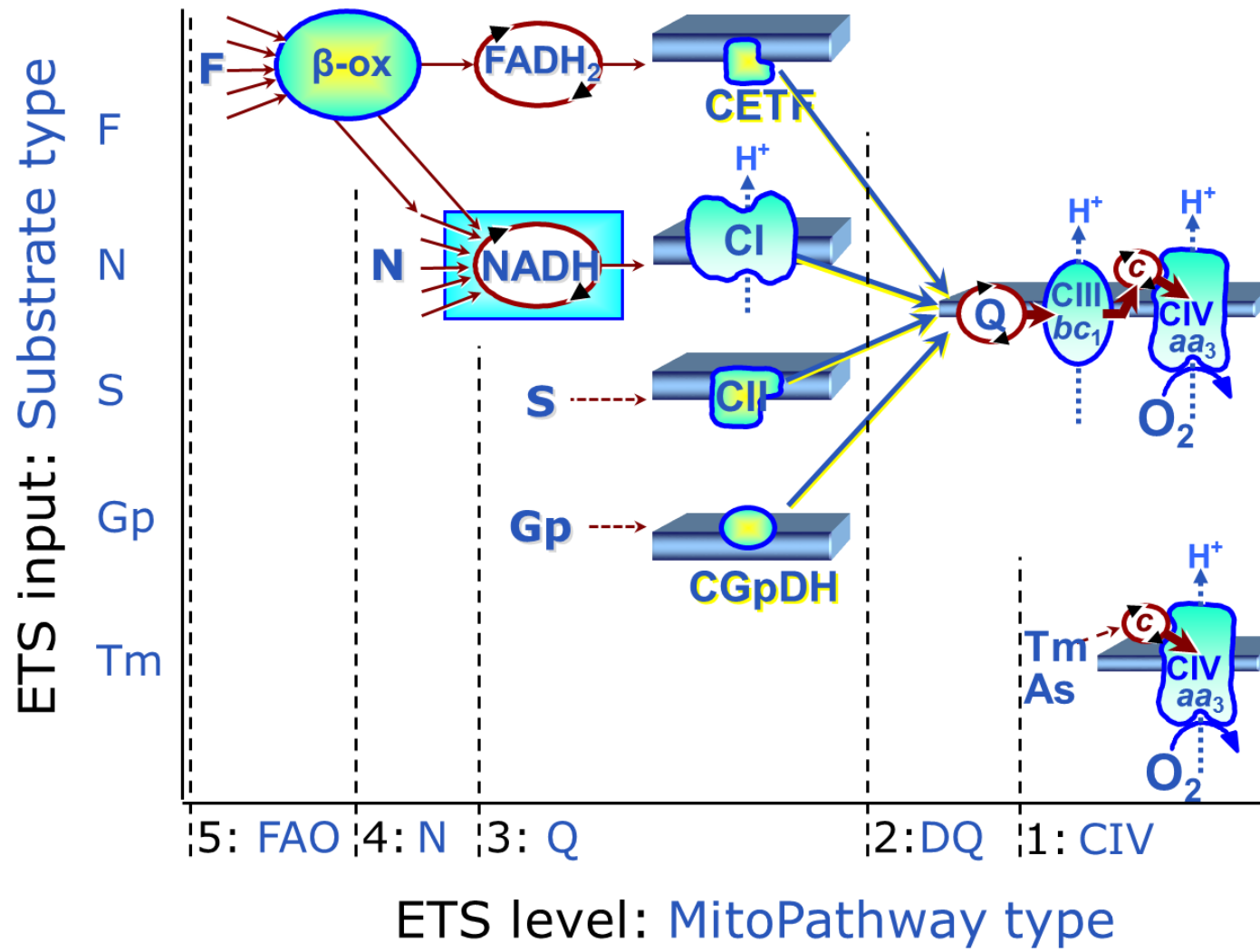
- Modular system for HRR for mitochondria and cell research
- Real-time OXPHOS analysis
- Living cells and diverse mitochondrial preparations

SUIT protocol:
Substrate-Uncoupler-Inhibitor
Titration protocol

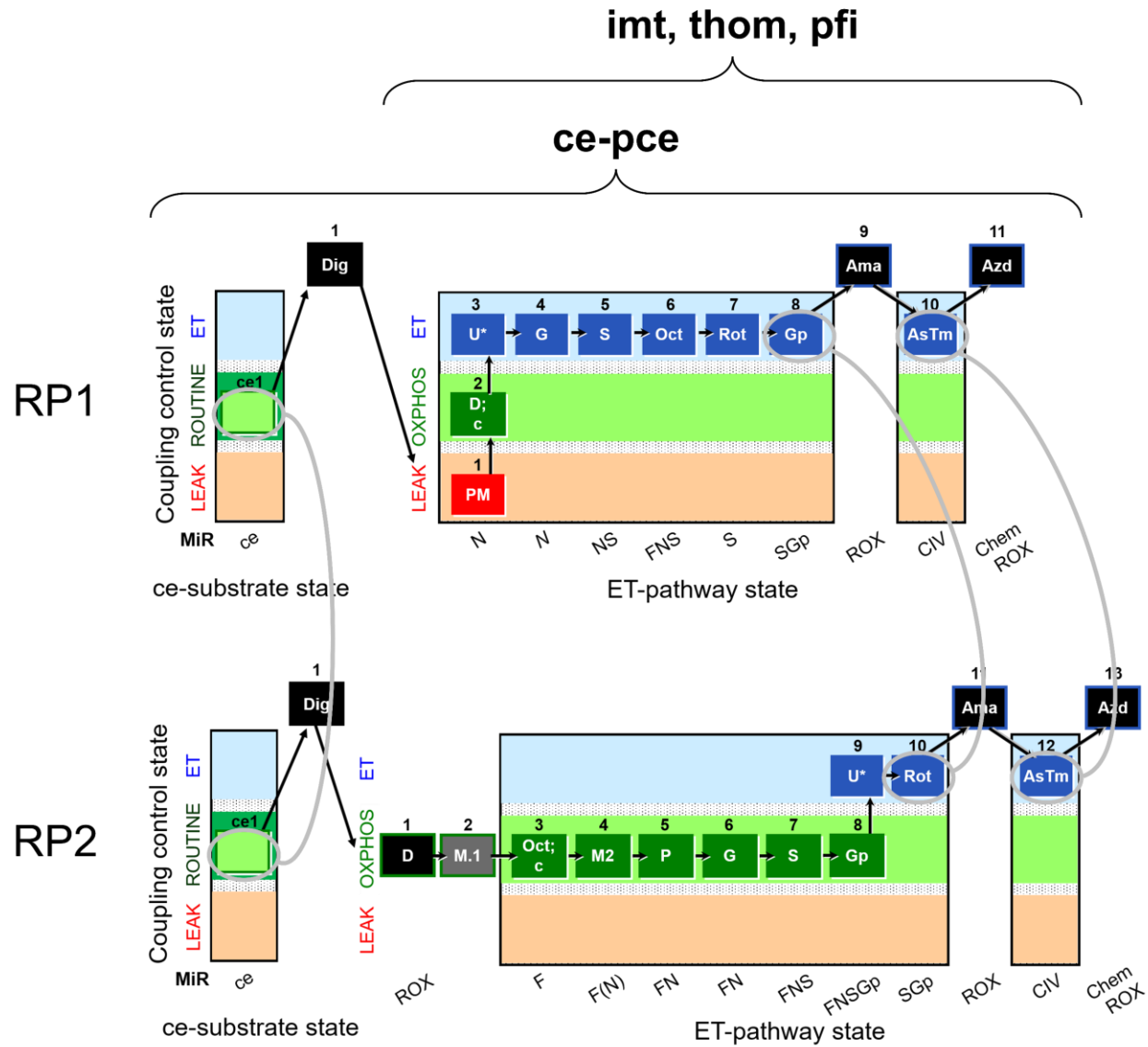
Coupling control



Mitochondrial pathways



SUIT reference protocol





SUIT reference protocol

Mitochondrial mapping in different models

Reference values

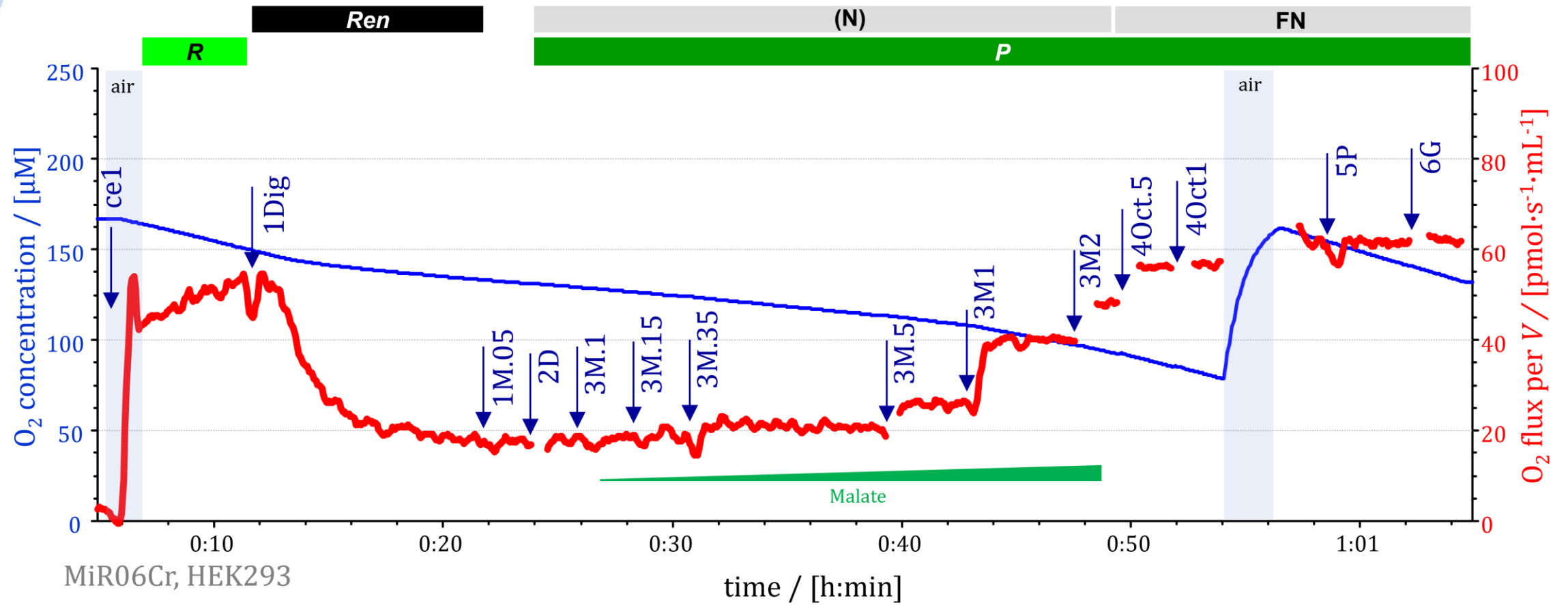
mt-database

mt-physiological diversity in different species,
tissues, and cell types

Searching for specific defects/metabolic profiles in
mitochondrial pathways in health and disease

Proficiency test

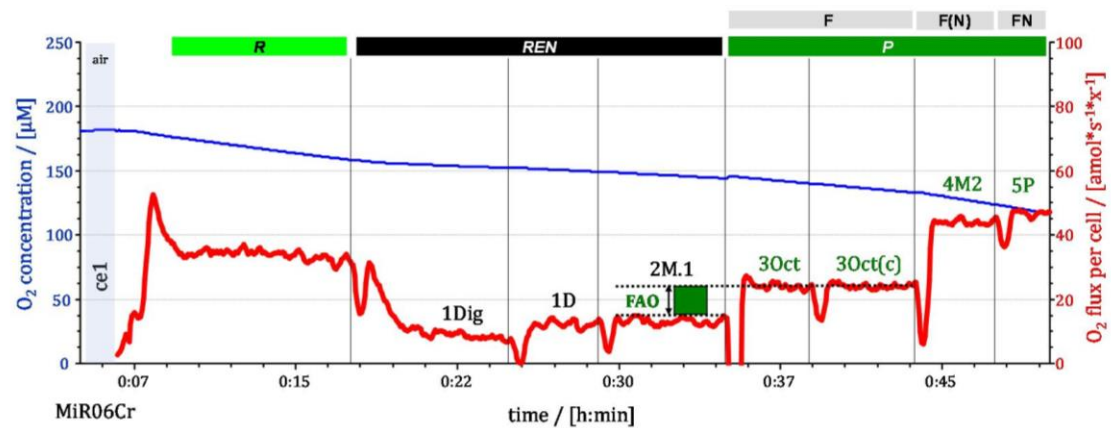
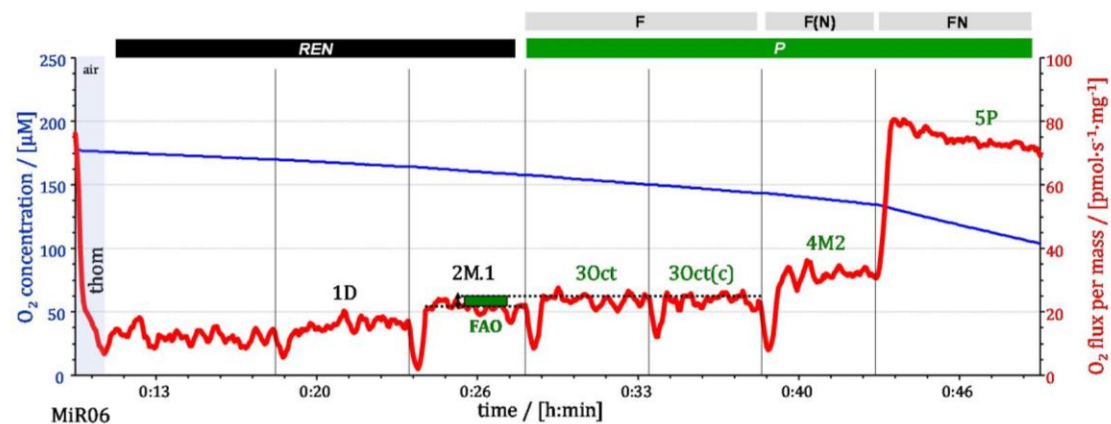
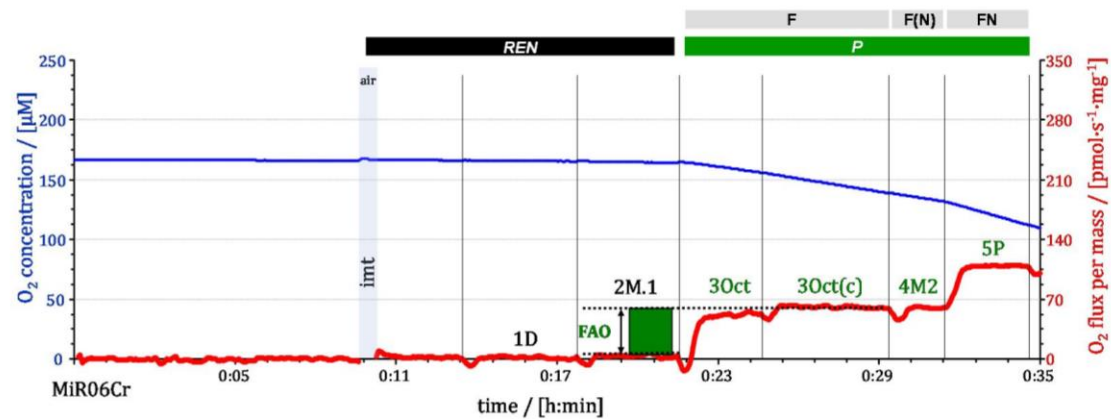
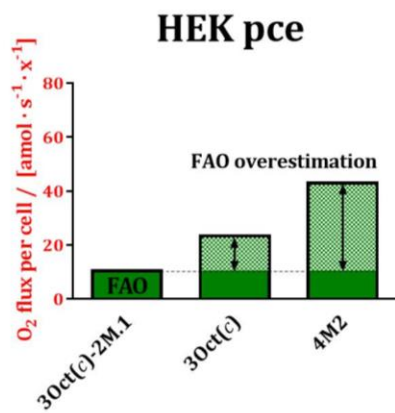
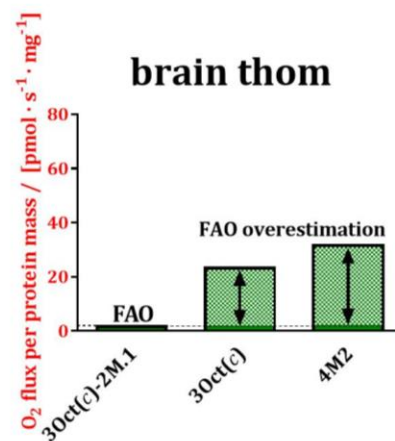
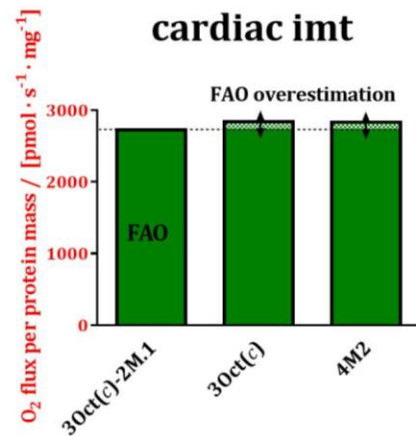
Malate anaplerotic pathways



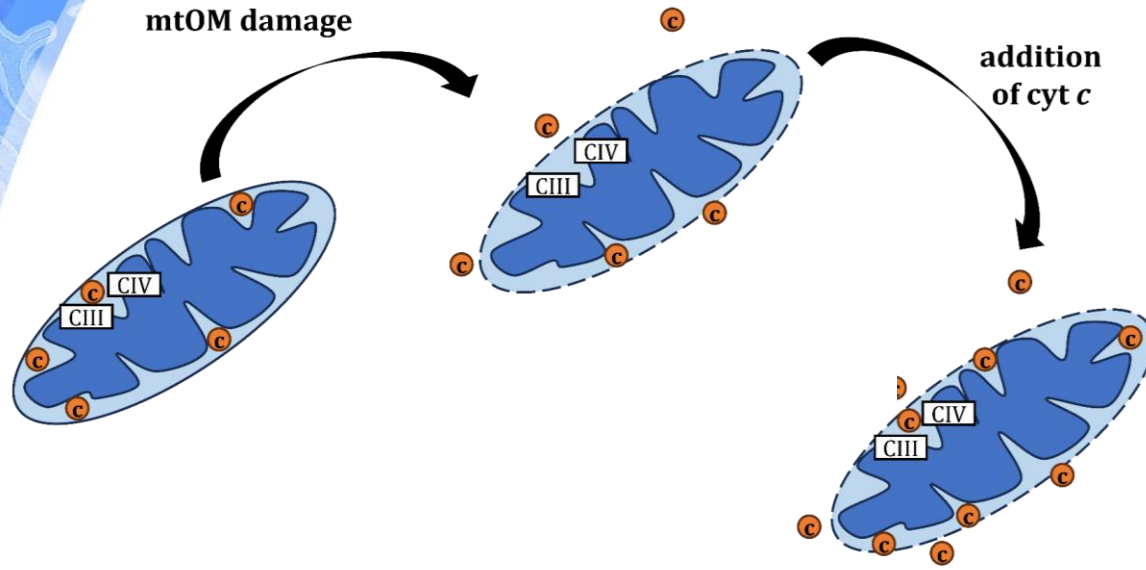
MiR06Cr, HEK2993

Fatty acid oxidation

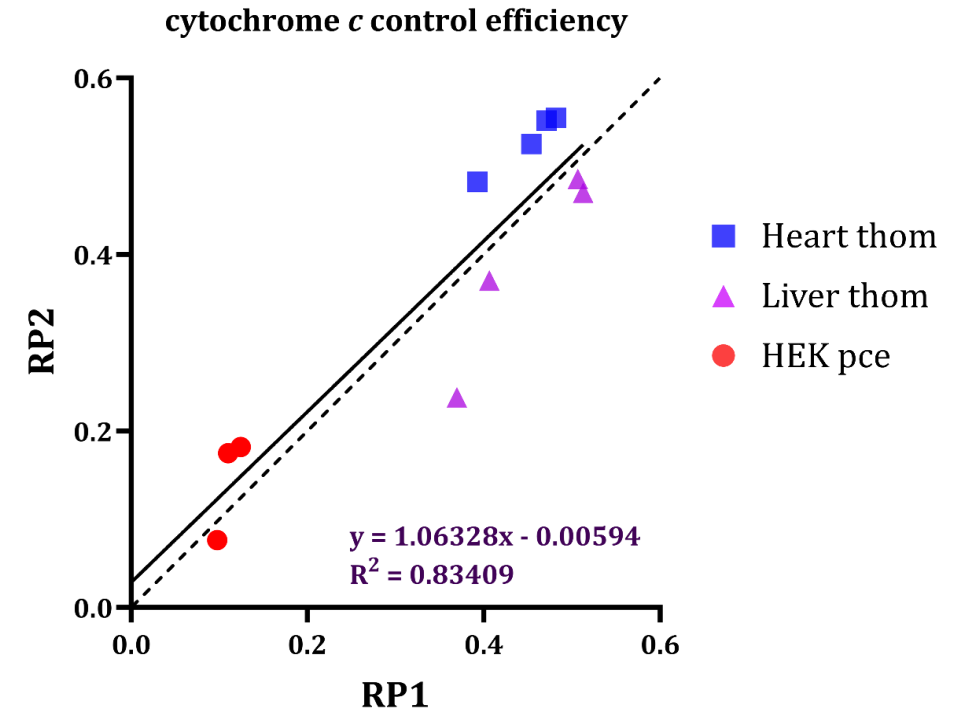
SUIT-RP2



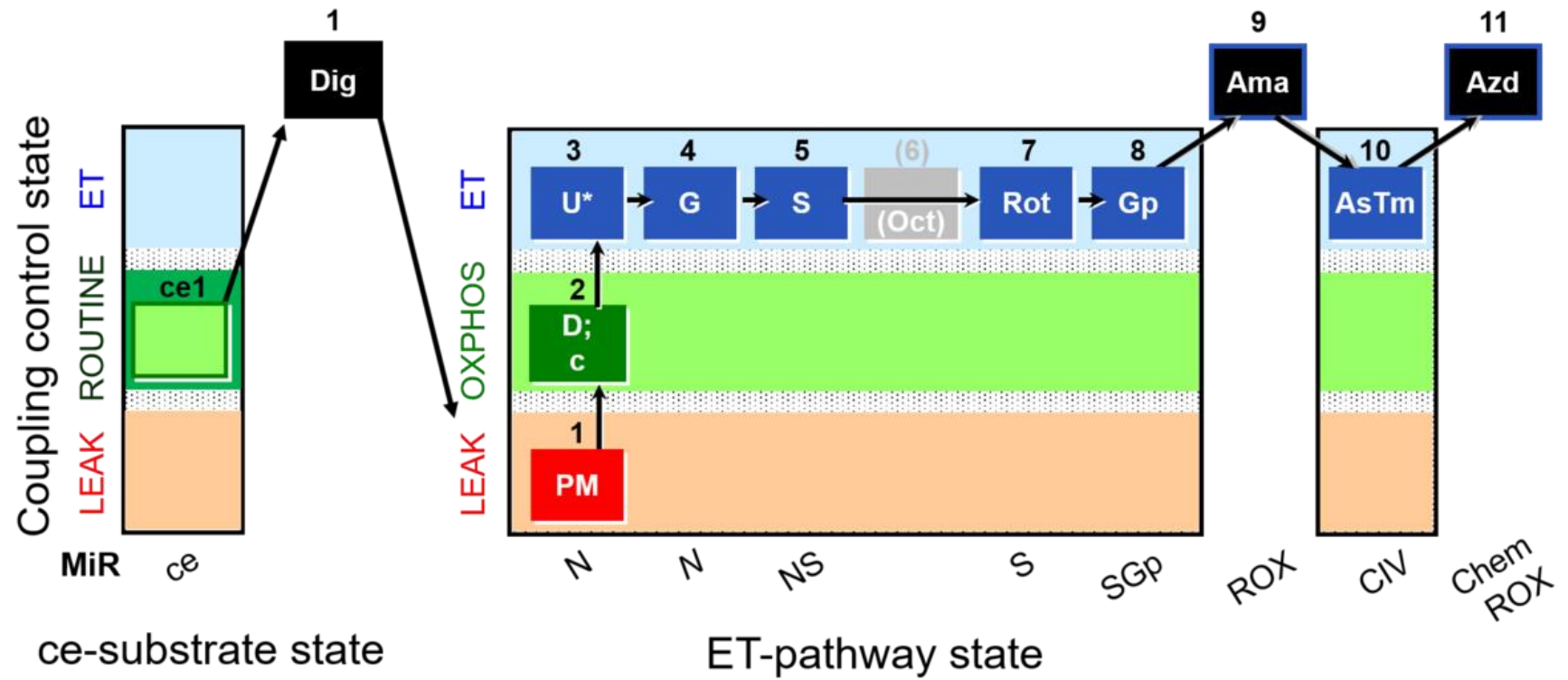
Cytochrome *c* control efficiency



$$J_{\text{cyt } c} = \frac{(J_{CHNOc} - J_{CHNO})}{J_{CHNOc}}$$

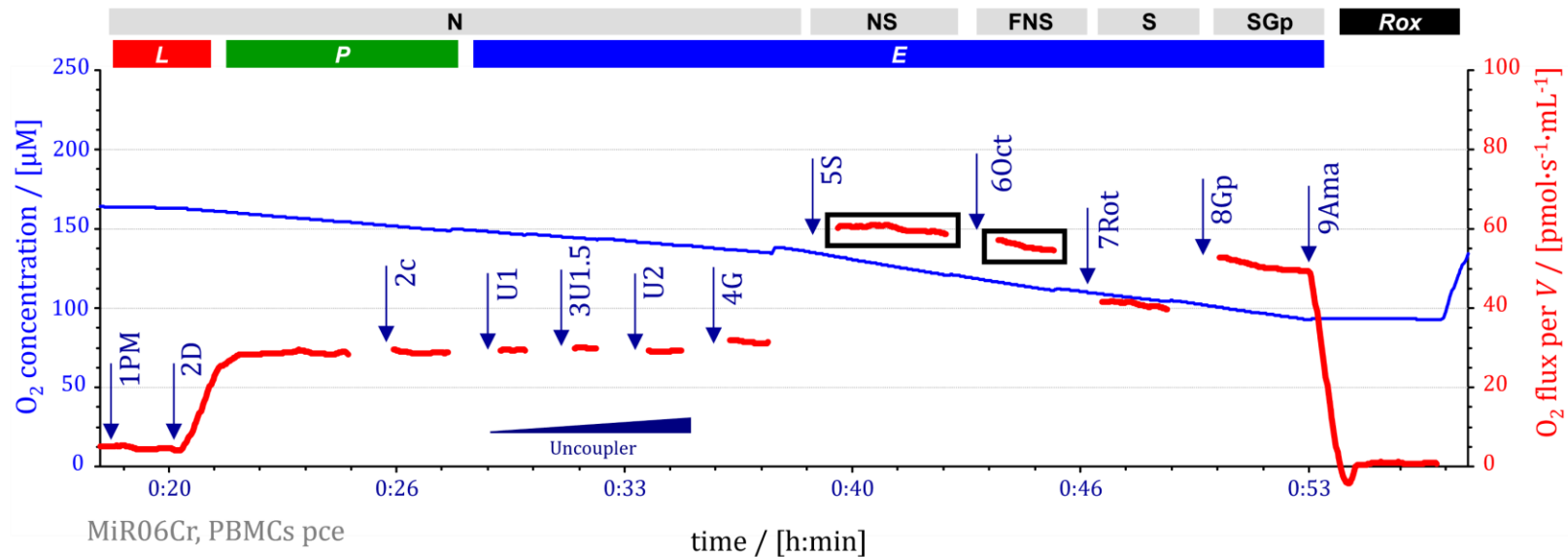


Modifications of SUIT-RP for PBMCs and platelets

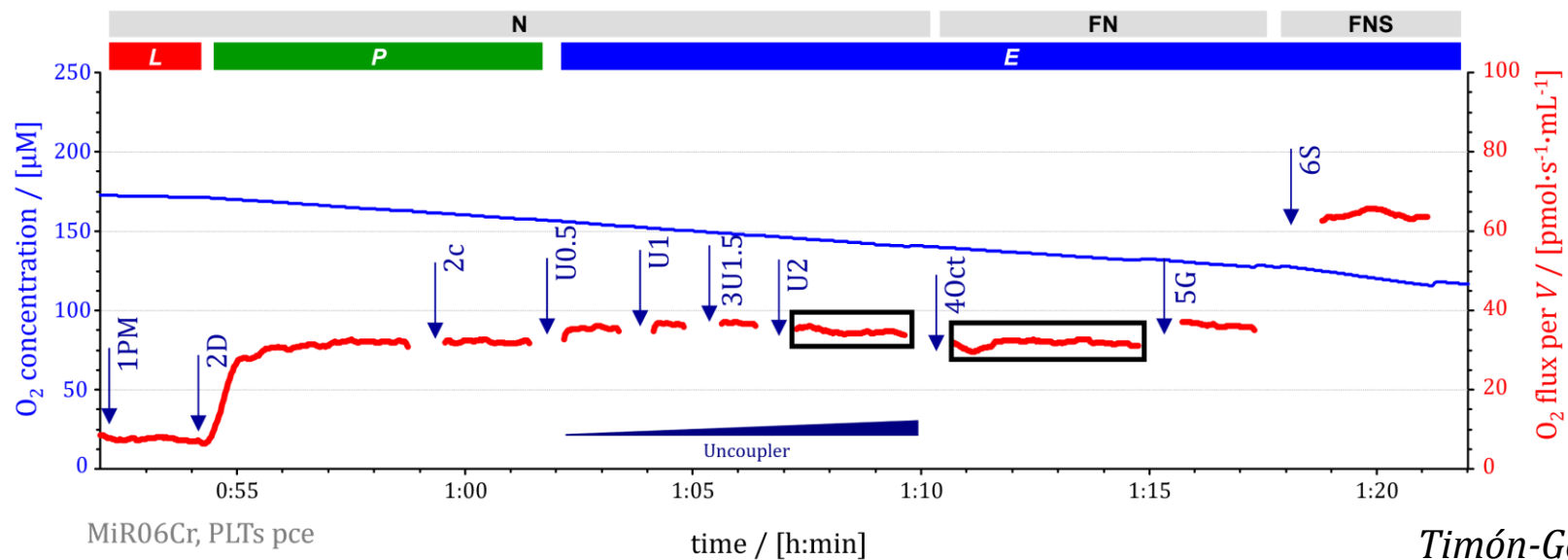


Modifications of SUIT-RP for blood cells

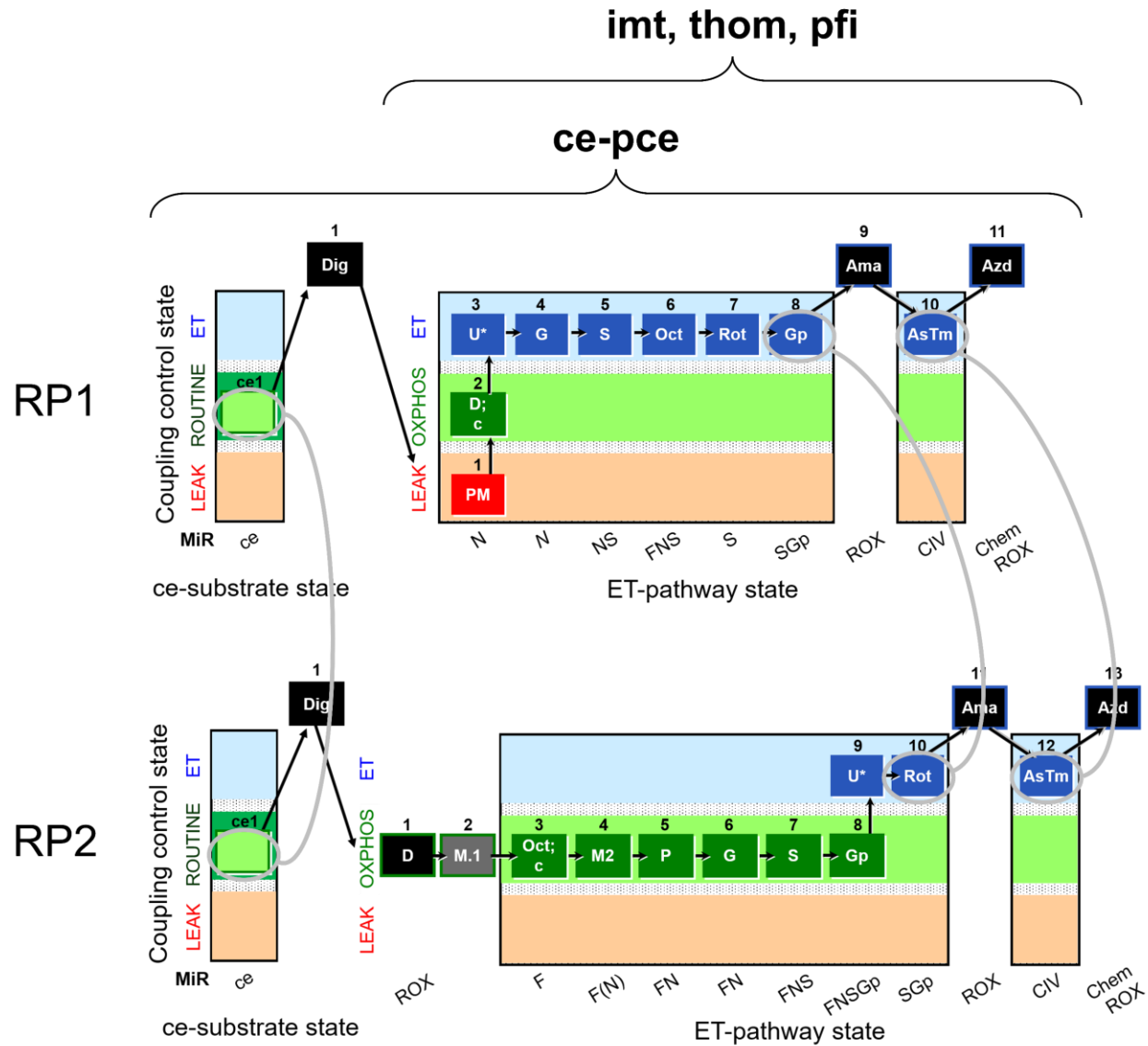
a



b



SUIT reference protocol for database generation



Thank you!

**Alba Timón-Gómez, PhD, *Mitochondrial Mage*
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alba.timon@orooboros.at