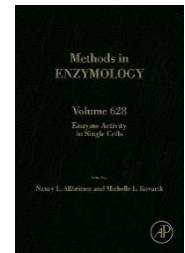


Measurement of ADP–ATP Exchange in Relation to Mitochondrial Transmembrane Potential and Oxygen Consumption

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Extramitochondrial Mg²⁺ concentration and conversion to ATP

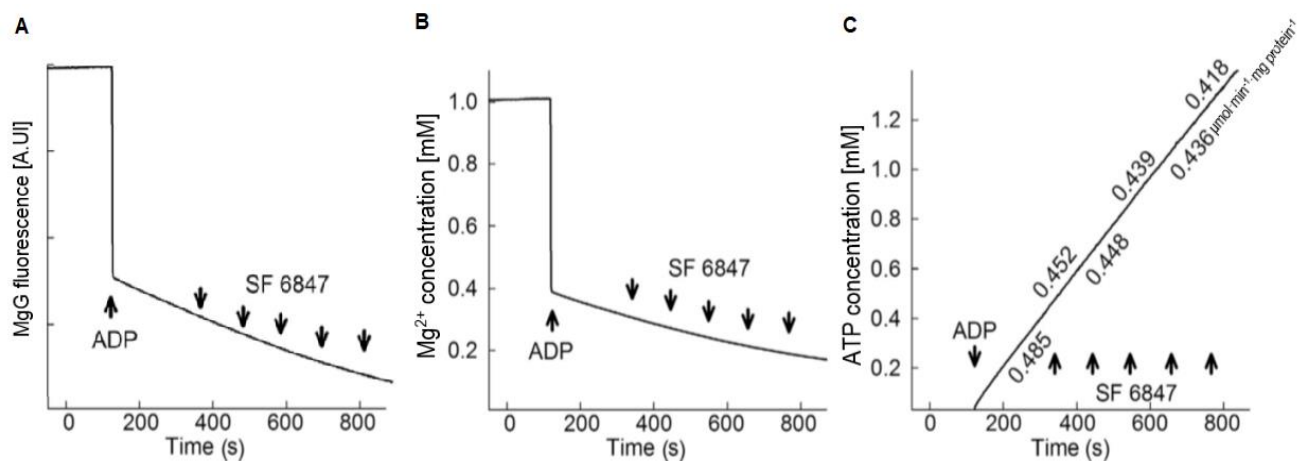


Figure 1. **A)** Reconstructed time recording of MgG raw fluorescence from permeabilized HEK293 cells upon addition of 2 mM ADP, followed by incremental 10 nM additions of the uncoupler SF 6847. **B)** Corrected calibrated trace of extramitochondrial Mg²⁺ concentration obtained from panel A. **C)** ATP concentration calculated from panel B.

The rate of ATP appearing in the medium can be calculated by making a linear regression for the ATP values as a function of time

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Mitochondrial membrane potential and oxygen flux determination in permeabilized cells

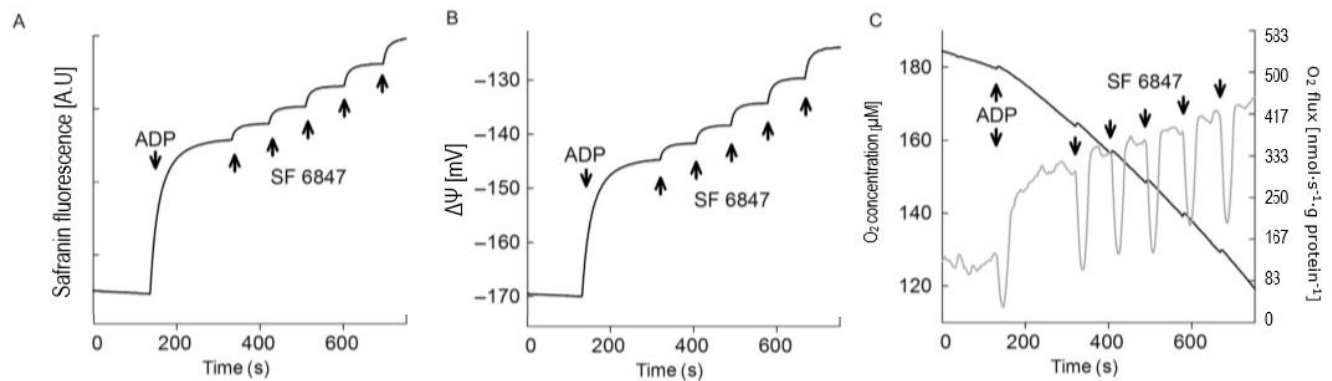


Figure 2 A) Reconstructed time recording of safranin raw fluorescence in permeabilized HEK293 cells upon addition of 2 mM ADP, followed by incremental 10 nM additions of the uncoupler SF 6847. **B)** Calibrated time recording of $\Delta\Psi$ obtained from panel A. **C)** Reconstructed time recording of oxygen concentration in the medium (black trace) and

ATP rate production is obtained as a function of $\Delta\Psi$ or oxygen flux

Reference: Chinopoulos C, Kiss G, Kawamata H, Starkov AA (2014) Measurement of ADP-ATP exchange in relation to mitochondrial transmembrane potential and oxygen consumption. *Methods Enzymol* 542:333-48.

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