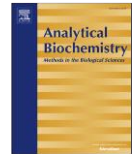


Analysis of respiratory capacity in brain tissue preparations: high-resolution respirometry for intact hippocampal slices

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Evaluation of mitochondrial respiration in hippocampal slices from two different rodent species (rat and mouse) through high-resolution respirometry

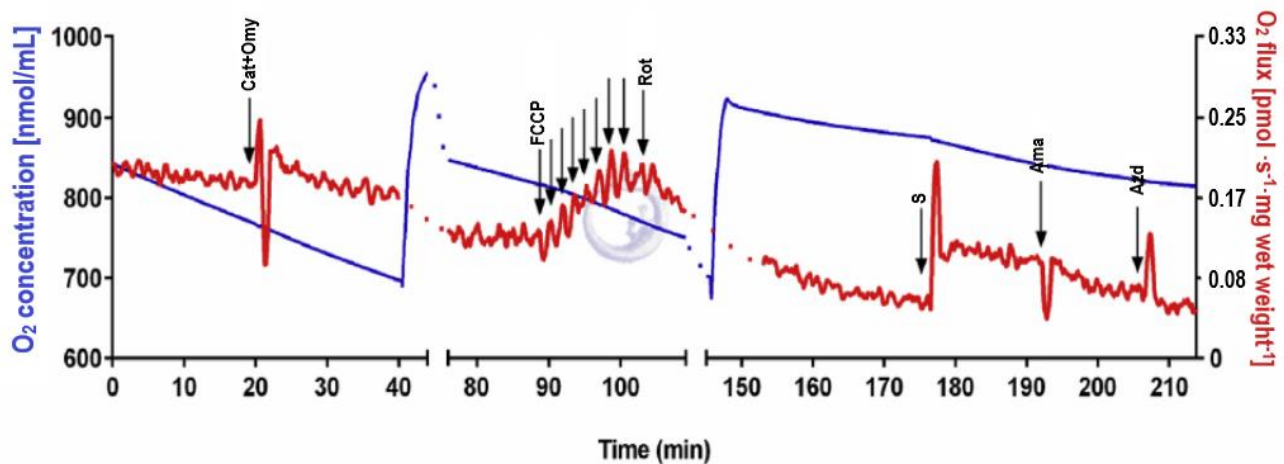


Figure 1. Representative respirometric trace. O₂ concentration (blue line; nmol/mL) and O₂ flux normalized for tissue wet weight (red line; [pmol·s⁻¹·mg wet weight⁻¹]); the arrows indicate the moment of titration of each substrate and inhibitor: carboxyatractyloside (Cat) and oligomycin (Omy), FCCP (added stepwise), rotenone (Rot), succinate (S), antimycin A (Ama), and sodium azide (Azd).

O2k-brief communicated by L Tindle-Solomon
Oroboros Instruments



Supported by project NextGen-O2k which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 859770



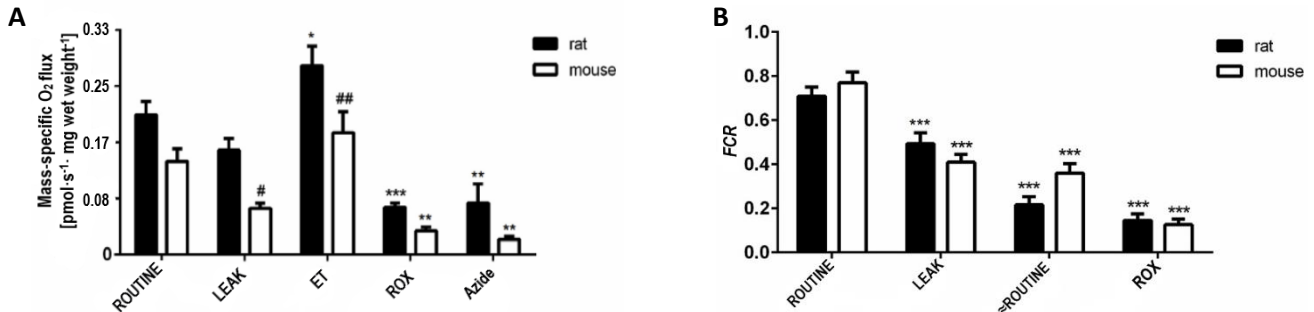


Figure 2. A) Specific flux per wet weight and B) Flux control ratios (FCR) determined for mouse and rat hippocampal slices. Values represent mean ± S.E.M. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ for comparison to ROUTINE in (A) and (B); # $p < 0.05$, ## $p < 0.01$ for comparison between rodent species. ROUTINE respiration corrected for LEAK respiration (free ROUTINE activity, ≈ROUTINE).

This methodology can be a useful asset for assessment of mitochondrial function in a preparation closer to the physiological state and valuable for other applications, such as the study of energy substrates in the brain

Reference: Dias C, Lourenco CF, Barbosa RM, Laranjinha J, Ledo AM (2018) Analysis of respiratory capacity in brain tissue preparations: high-resolution respirometry for intact hippocampal slices *Analyt Biochem* 551(22):43-50.

Figures and texts slightly modified based on the recommendations of the COST Action MitoEAGLE CA15203. [Doi:10.26124/mitofit:190001.v3](https://doi.org/10.26124/mitofit:190001.v3)

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