

High-Resolution Fluorespirometry and oxidative stress

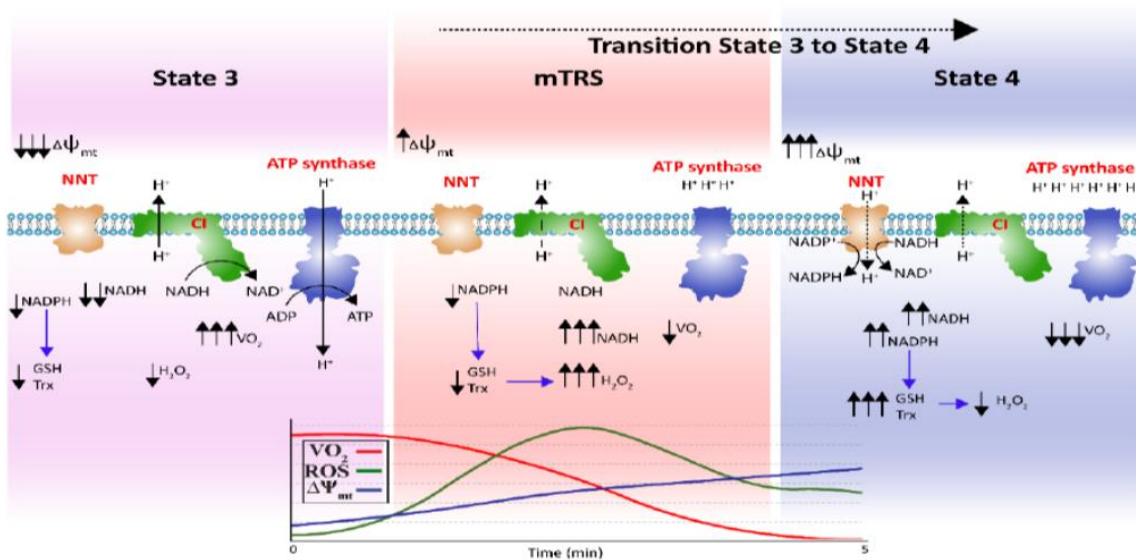
Biochim Biophys Acta 1858:955-965 (2017).

Mitochondrial transition ROS spike (mTRS) results from coordinated activities of complex I and nicotinamide nucleotide transhydrogenase

Mahmoud S. Sharaf, Don Stevens, Collins Kamunde

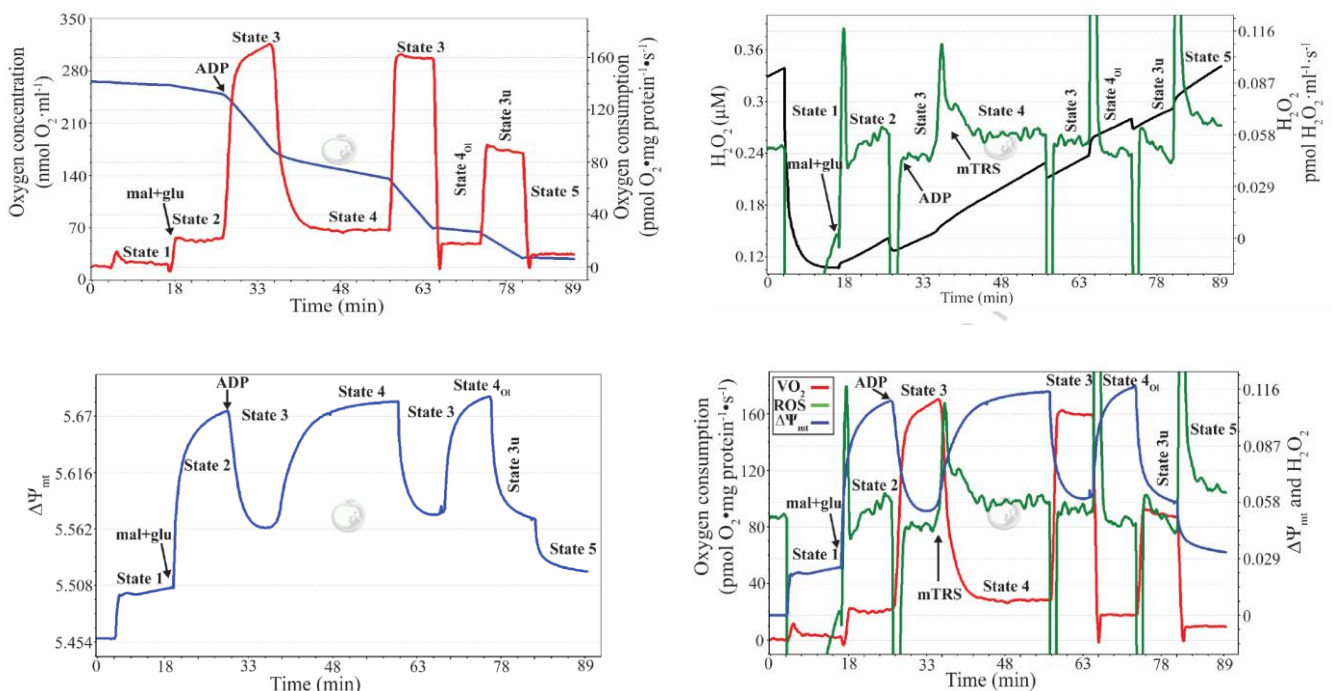


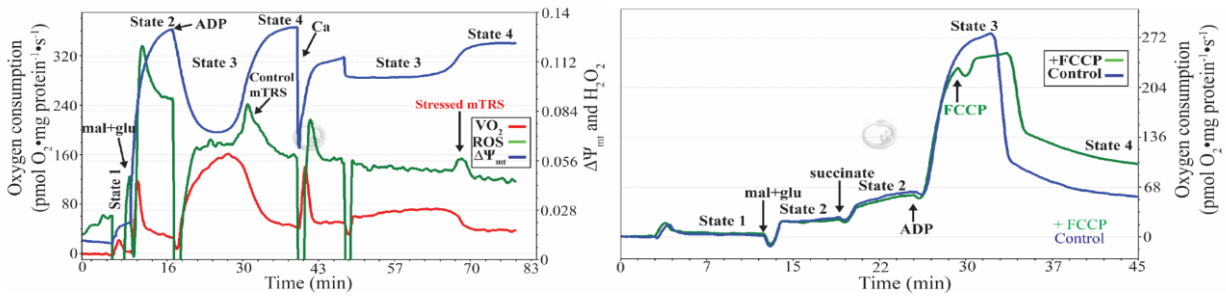
Proposed mTRS mechanism



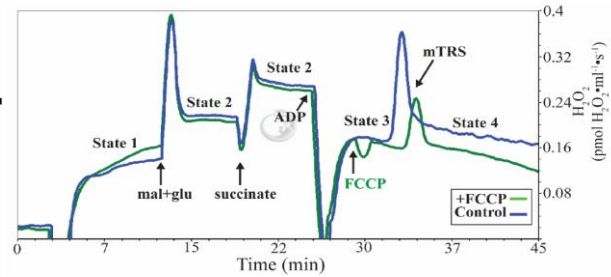
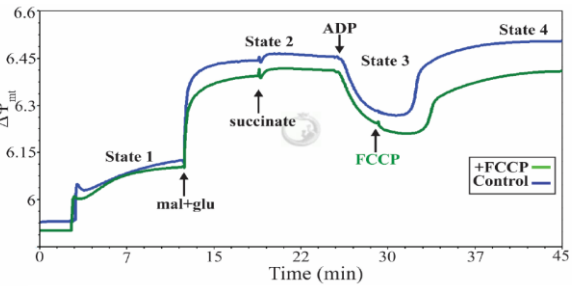
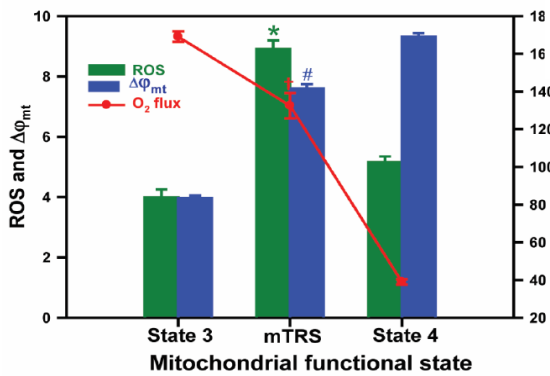
Biochim Biophys Acta 1858:955-965 (2017).

Simultaneous real-time high-resolution measurement of mitochondrial respiration, H₂O₂ production and membrane potential

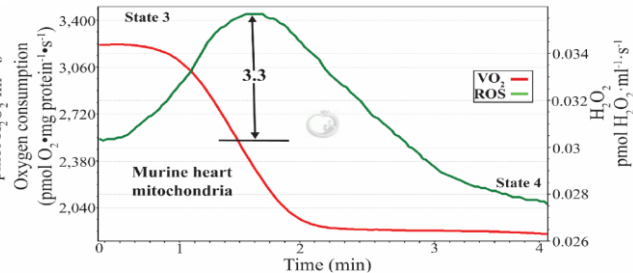
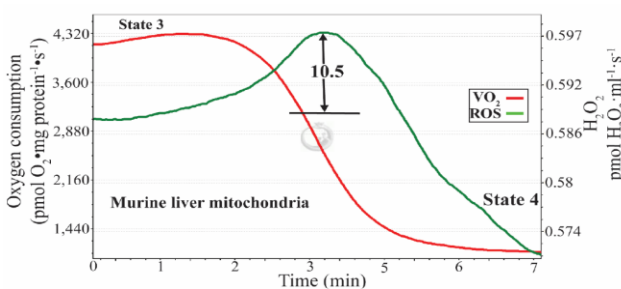
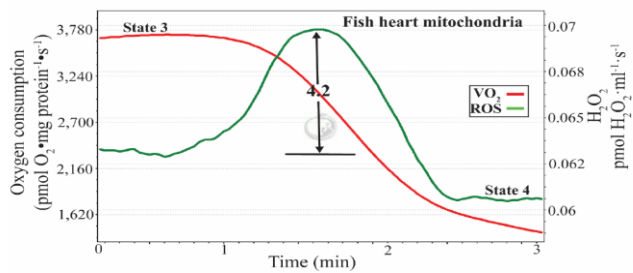
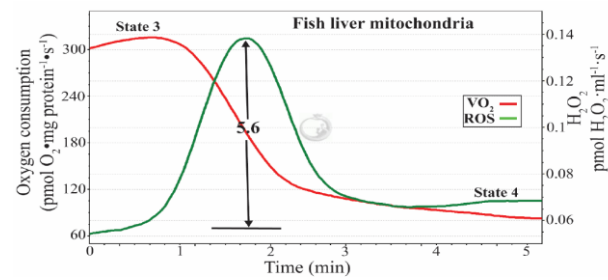




The functional interconnection of mitochondrial respiration, hydrogen peroxide production and membrane potential determine the mTRS amplitude.



Comparative physiology between trout and mice reveals that the mTRS mechanism is conserved in mammals



Reference: Sharaf MS, Stevens D, Kamunde C (2017) Mitochondrial transition ROS spike (mTRS) results from coordinated activities of complex I and nicotinamide nucleotide transhydrogenase. *Biochim Biophys Acta* 1858:955-65.