

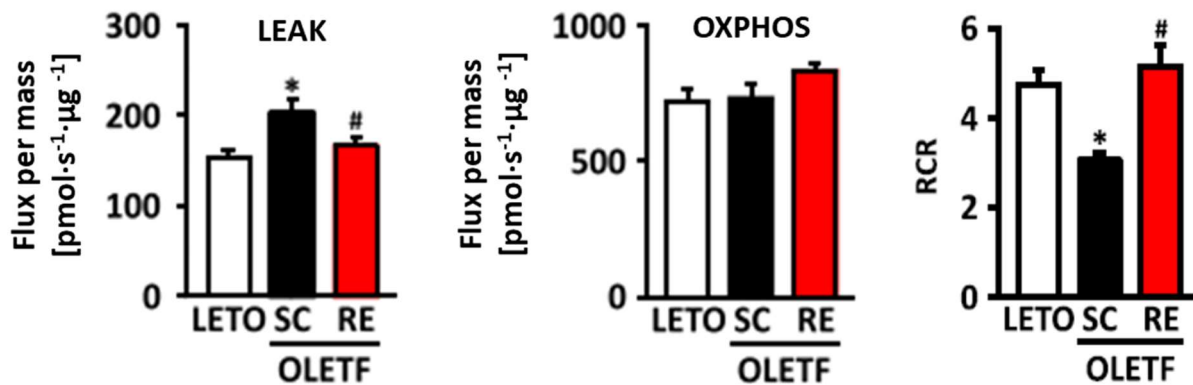
## High-Resolution Fluorescence Respirometry: heart, Type 2 diabetes and exercise

### Resistance exercise improves cardiac function and mitochondrial efficiency in diabetic rat hearts

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#### Resistance Exercise rats improve their mitochondrial function in type 2 diabetes hearts



**OLETF:** Otsuka Long-Evans Tokushima Fatty rat (type 2 diabetes, T2DM)

**LETO:** Long Evans Tokushima Otsuka rat (Non-diabetic control)

**LEAK:** 1 mM glutamate + 0.5 mM malate

**OXPHOS:** 1 mM glutamate + 0.5 mM malate + 1 mM ADP

Hearts from resistance exercise (RE) rats showed an attenuation in the LEAK capacity in comparison to the sedentary control (SC) of the LETO and OLETF strain rats. On the contrary, there is not a significant change in the OXPHOS capacity linked to the N-pathways in any of the groups studied. Also, there is an increase in the respiratory control ratio when we compare the sedentary animals and those that followed the resistance exercise protocol, suggesting an improvement in the mitochondrial performance.

#### Resistance Exercise improve mitochondrial function, thereby enhancing cardiac contractility in diabetic cardiomyopathy

Reference: Ko TH, Marquez JC, Kim HK, Jeong SH, Lee S, Youm JB, Song IS, Seo DY, Kim HJ, Won DN, Cho KI, Choi MG, Rhee BD, Ko KS, Kim N, Won JC, Han J (2018) Resistance exercise improves cardiac function and mitochondrial efficiency in diabetic rat hearts. Pflügers Arch 470:263-75.