

Our findings caution against the use of indiscriminate mitochondrial inhibitors for cancer treatment.

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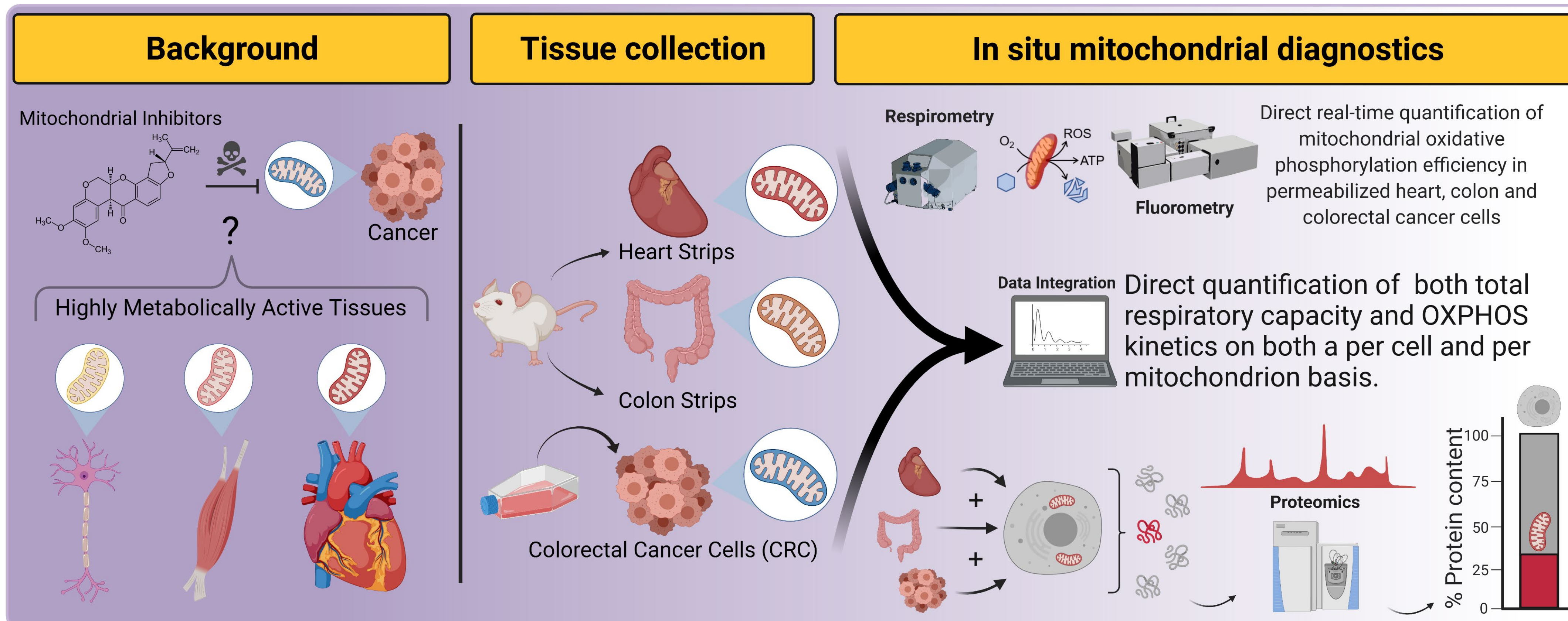
In situ quantification of mitochondrial bioenergetics reveals disparate OXPHOS kinetics between mouse colorectal cancer cells and healthy tissues

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GRAPHICAL ABSTRACT



RESULTS

Mitochondrial Bioenergetics

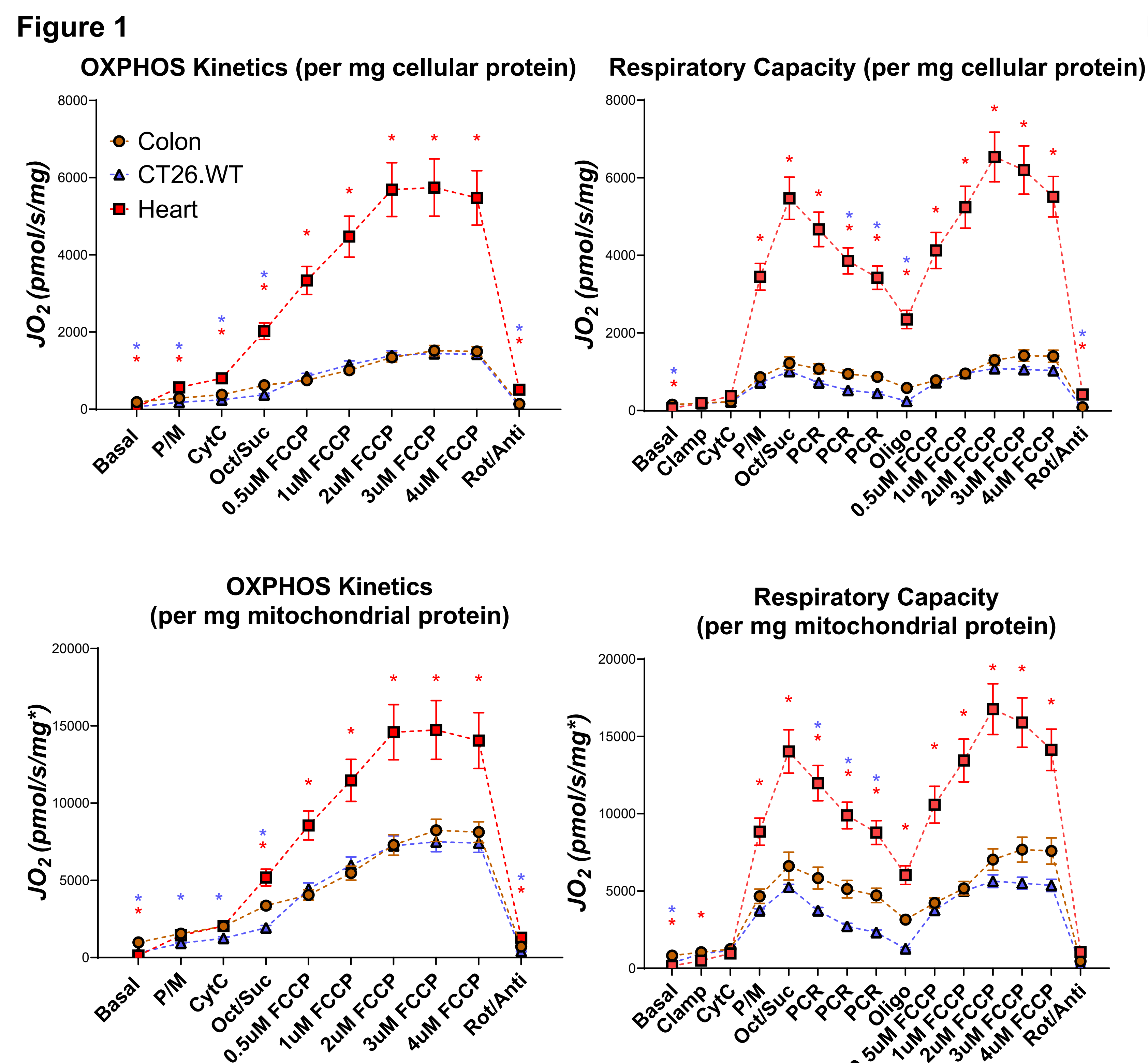


Figure 1 A-D Respiration data from the PCR titration and FCCP titration protocols in permeabilized colon and heart strips and in permeabilized cells. Data was normalized to total protein (A-B) or to mitochondrial protein (C-D). N=7/group. Heart's respiratory capacity is greatly elevated when compared to colon and CRC. Statistics: two-way ANOVA in relationship to colon. *P<0.0332

ATP/O ratio

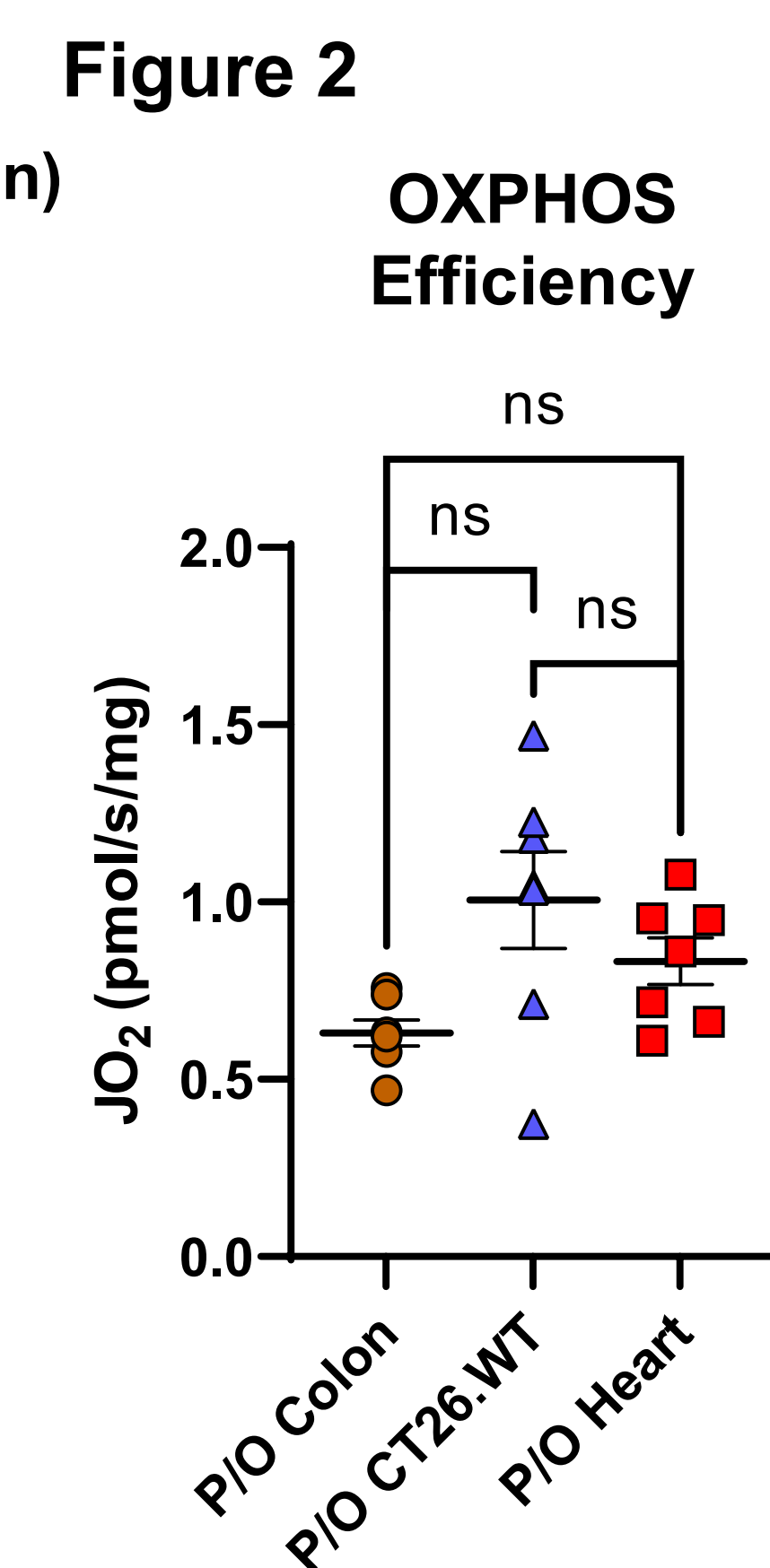


Figure 2: Mitochondrial P/O ratio in mitochondria with 100uM ADP energized with Succinate and Octanoyl-L-carnitine. N=7/group PM supported P/O is in supplemental figures

Figure 5 Complex IV proteome. We investigated intrinsic differences in the mitochondrial proteome across the groups. In this figure we depict complex IV proteins per group. N=4/group

RESULTS cont

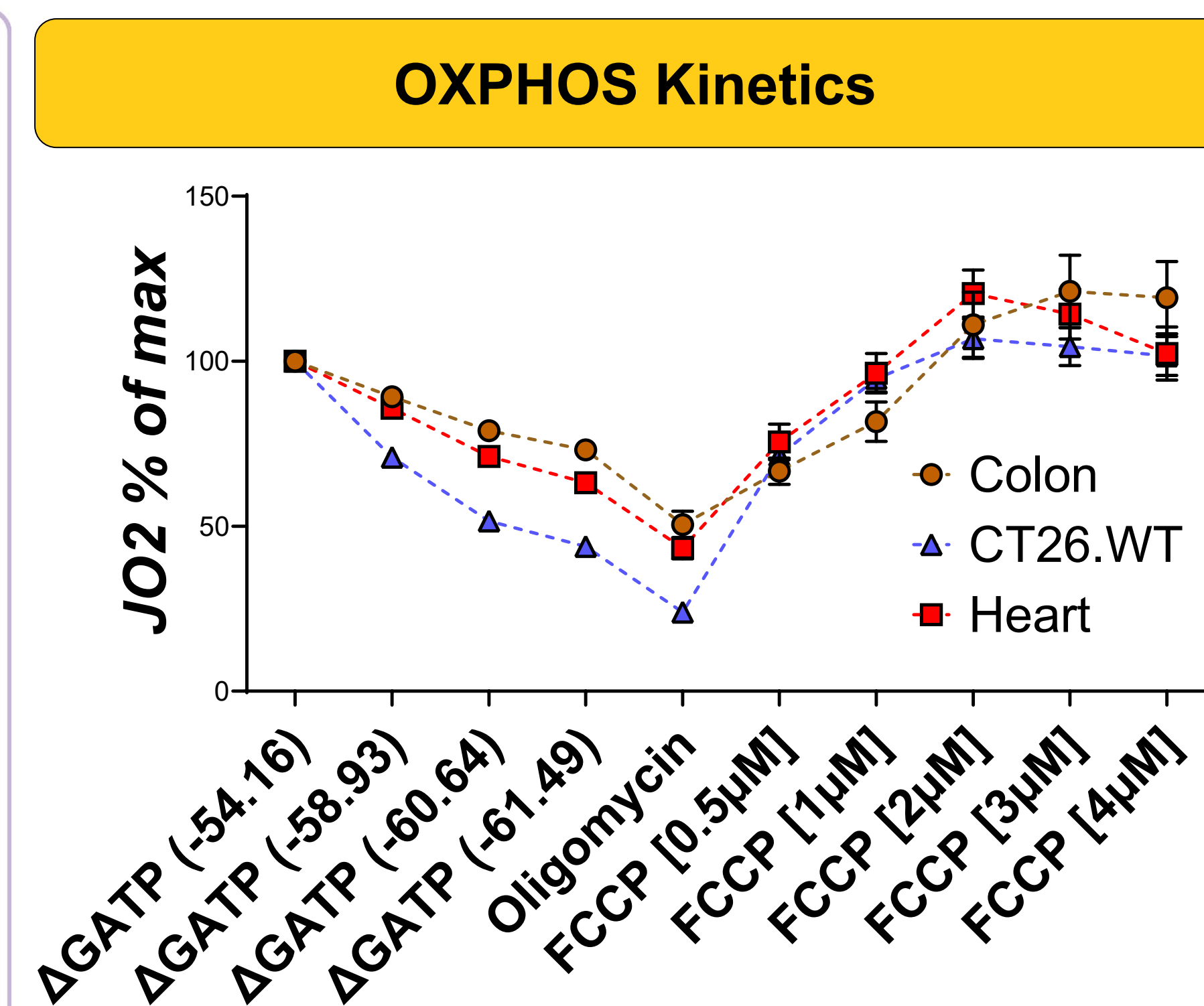


Figure 3 Respiration in permeabilized colon and heart strips and in permeabilized cells, depicted as a % of max respiration.

OXPHOS proteome

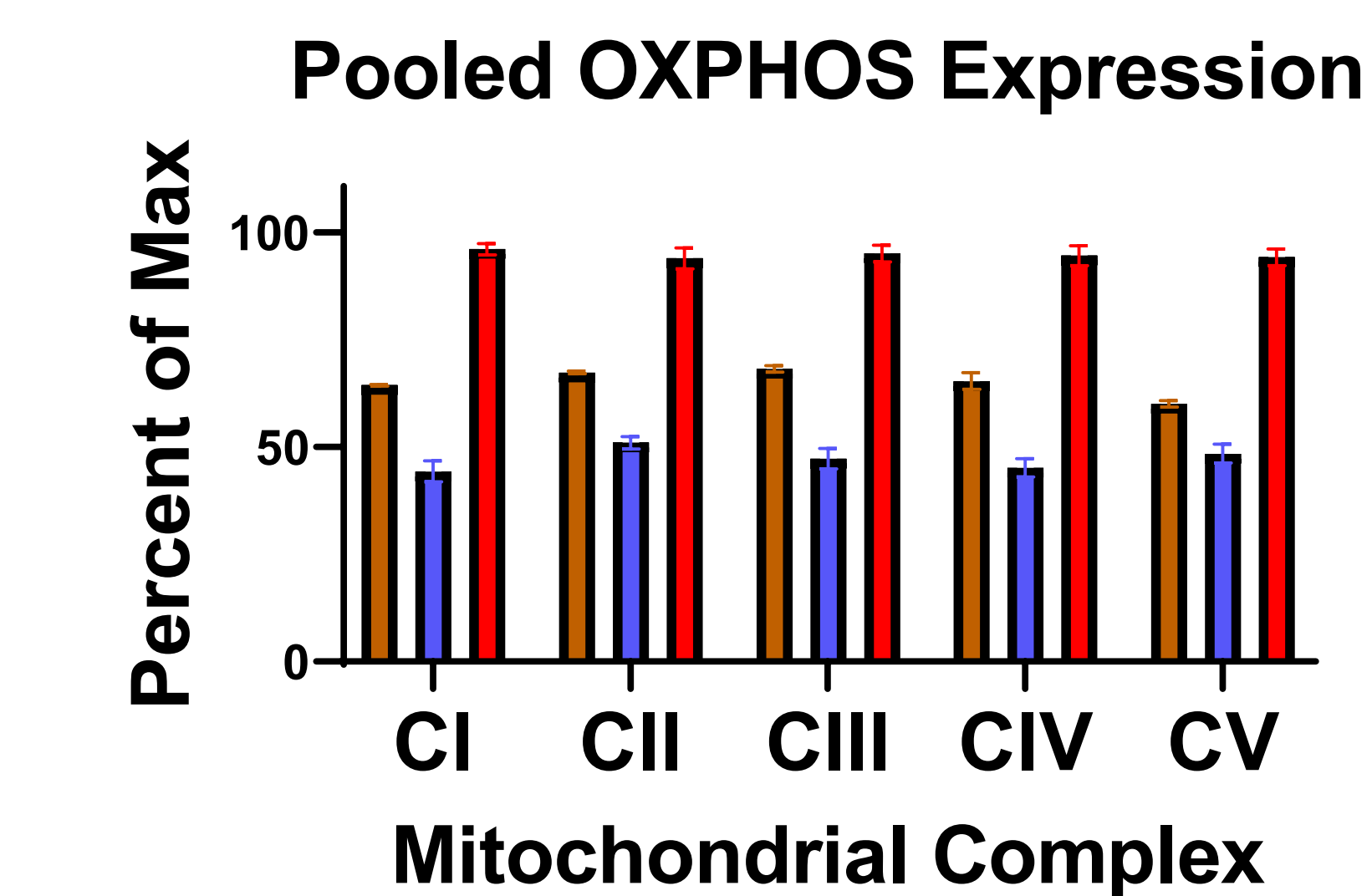
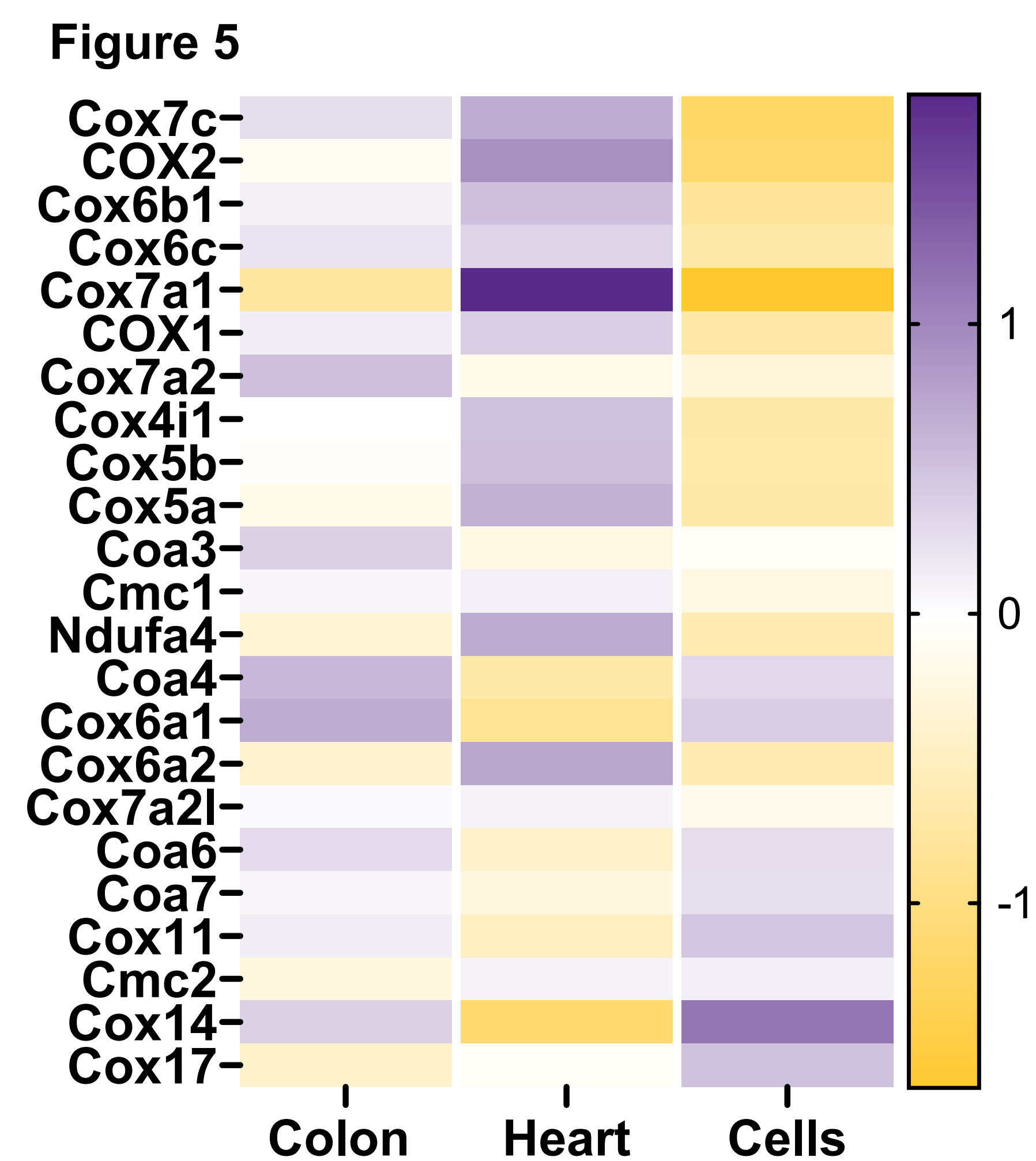
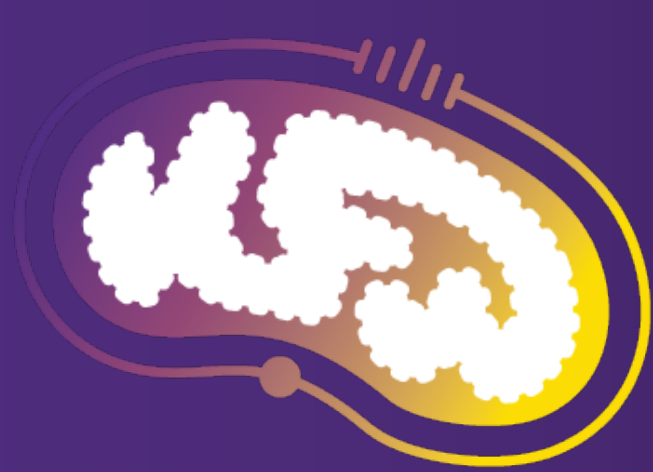


Figure 4: Mitochondrial complex enrichment depicted as % of max content for each complex

Complex IV proteome



Results: Despite minimal differences between CRC and normal mouse colon, in cardia myofibers, both total respiratory capacity and OXPHOS conductance were >5-fold higher when adjusted to total protein and >2-fold when adjusted to mitochondrial protein.



For references and more data scan here:

