

## **Supplementary Materials**

### **The iron chelator Deferasirox causes severe mitochondrial swelling without depolarization due to a specific effect on inner membrane permeability**

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**This file includes:**

Captions for Supplementary Movies 1 to 3

**Supplementary Movie 1.** Mobility of swollen GFP-labeled mitochondria (green) along microtubules (labeled with SiR tubulin, red) is reduced in cells after treatment for 40 minutes with DFX, in comparison to control cells (acquisition rate = 1 frame/5 seconds, scale = 10  $\mu\text{m}$ ).

**Supplementary Movie 2.** Co-imaging of mitochondrial morphology (with GFP labeling, green) and energization state (with TMRM, red) reveals that mitochondrial swelling induced by DFX reverses upon addition of Iron (III) (200  $\mu\text{M}$ ) (acquisition rate = 1 frame/10 seconds, scale = 10  $\mu\text{m}$ ).

**Supplementary Movie 3.** Giant IMM vesicles prepared in PBS containing 0.8 mg/ml pHrodo were trapped in a microfluidic chamber and incubated with PBS containing 0.8 mg/ml pHrodo and 1 mM DFX. DFX reaches the membrane at 35 seconds. Note the rise in intensity of membrane-bound pHrodo (red) and the vesicle deformation at the end. Scale = 10  $\mu\text{m}$ .