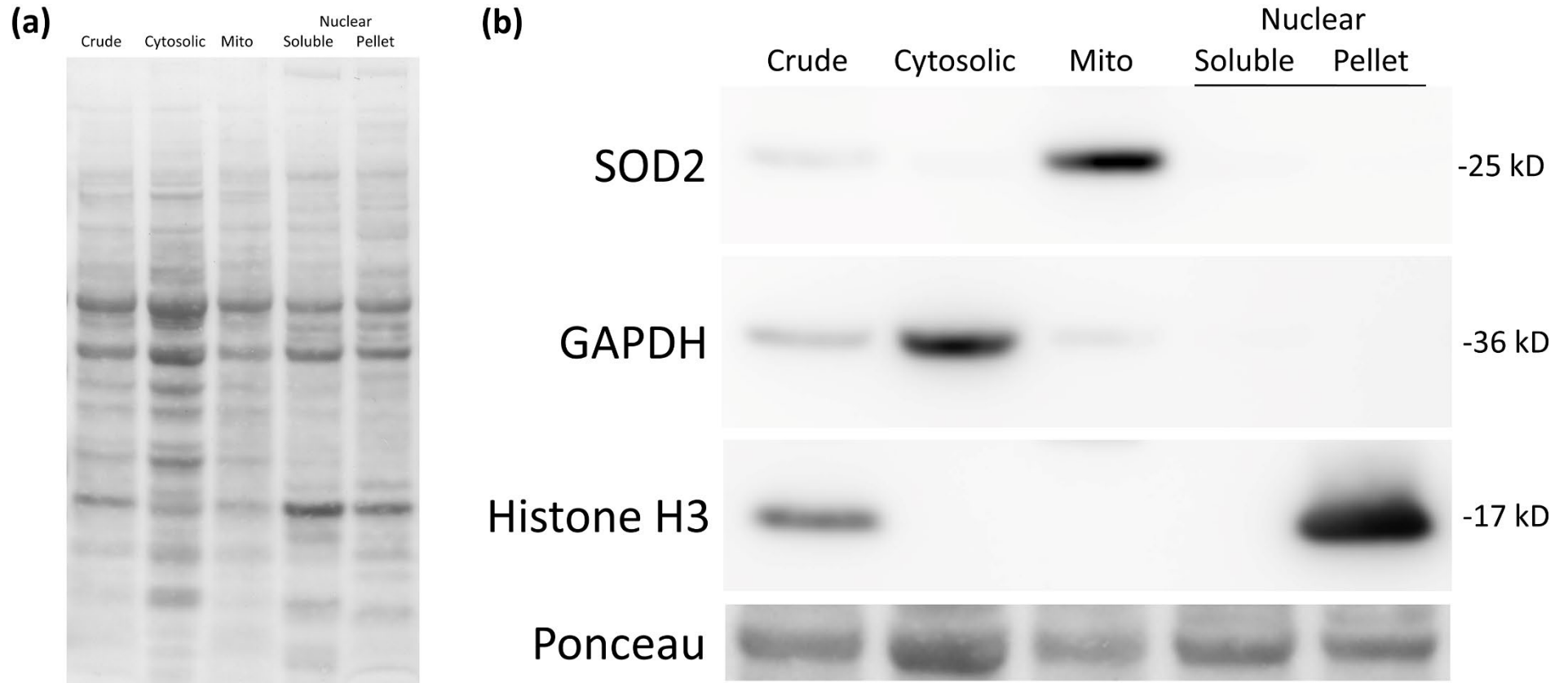


**Supplemental Figure 1.** Subcellular fractionation in piglet putamen. **(a)** Representative Ponceau S stained membrane showing total protein loading of the different fractions using the ThermoFisher NE-PER extraction kit. Fraction selective protein banding can be seen in the different lanes. **(b)** Western blotting of the fractions for SOD2 verified that the mitochondrial (mito)/organelle fractions used in the paper have a strong mitochondrial (SOD2) signal compared to the other fractions. The mito fraction has minimal cytosolic (GAPDH) and absent nuclear (histone) contamination.



**Supplemental Figure 2.** Rapid fresh (not frozen) tissue homogenization preparation vs frozen putamen homogenization preparation for isolation of mitochondrial enriched fractions. **(a)** Western blots for VDAC and CypD along with **(b)** band quantification do not show a difference between fresh and flash frozen samples. A human putamen sample is also shown with a band seen co-migrating at the expected molecular weight for VDAC and CypD with the piglet samples. Human lane was cropped to show a longer exposure time.

