

Supplemental Figure 1.

A) Similar to the COX staining, staining with NADH revealed an increase in the number and size of mitochondrial aggregates (arrows) in Cav-2 deficient muscle fibers as compared to WT controls.

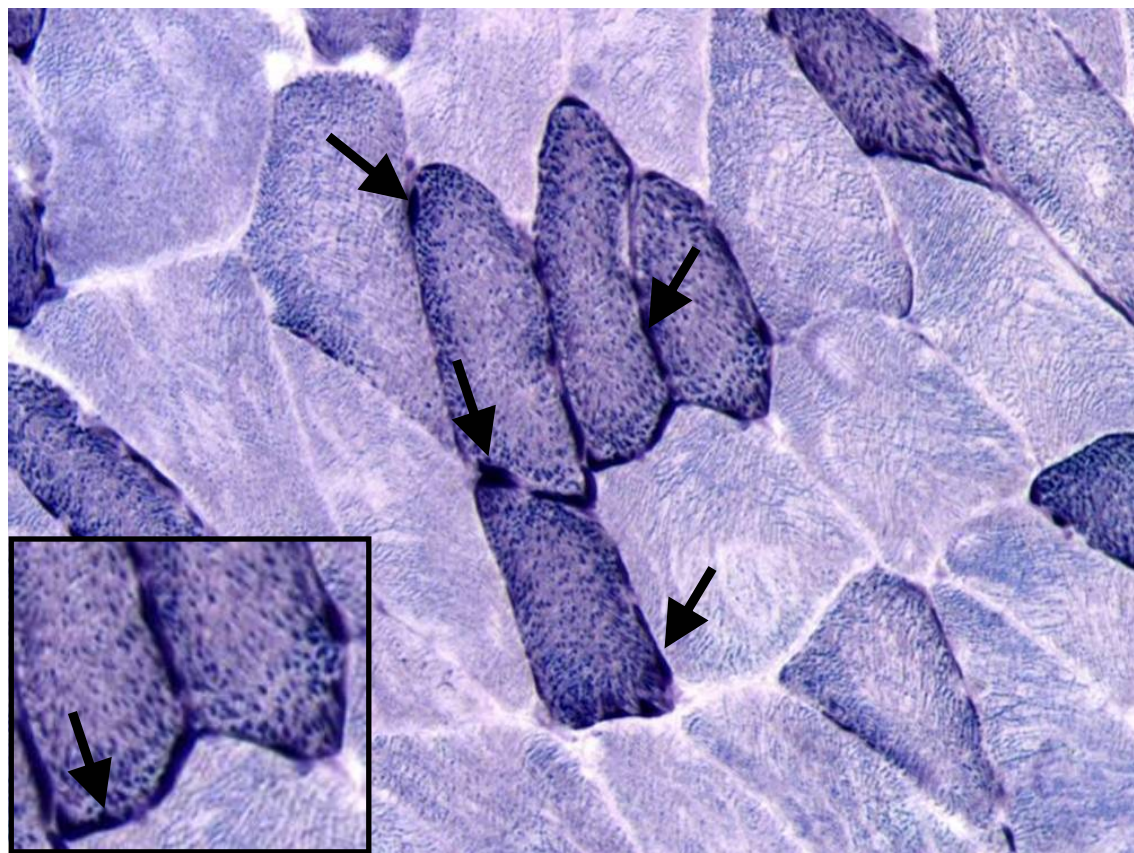
B) Succinate dehydrogenase (SDH) staining in skeletal muscle sections from WT and Cav-2 KO mice. The distribution was similar to COX and NADH staining patterns, with an increased number of Cav-2 deficient muscle fibers containing larger and more numerous mitochondrial aggregates.

C) Trichrome staining detects not only mitochondrial aggregates (small arrows) but also tubular aggregates (large arrows). While all of the muscle fibers containing the TAs also have the mitochondrial aggregates, other fibers that do not contain TAs, do have the mitochondrial aggregates.

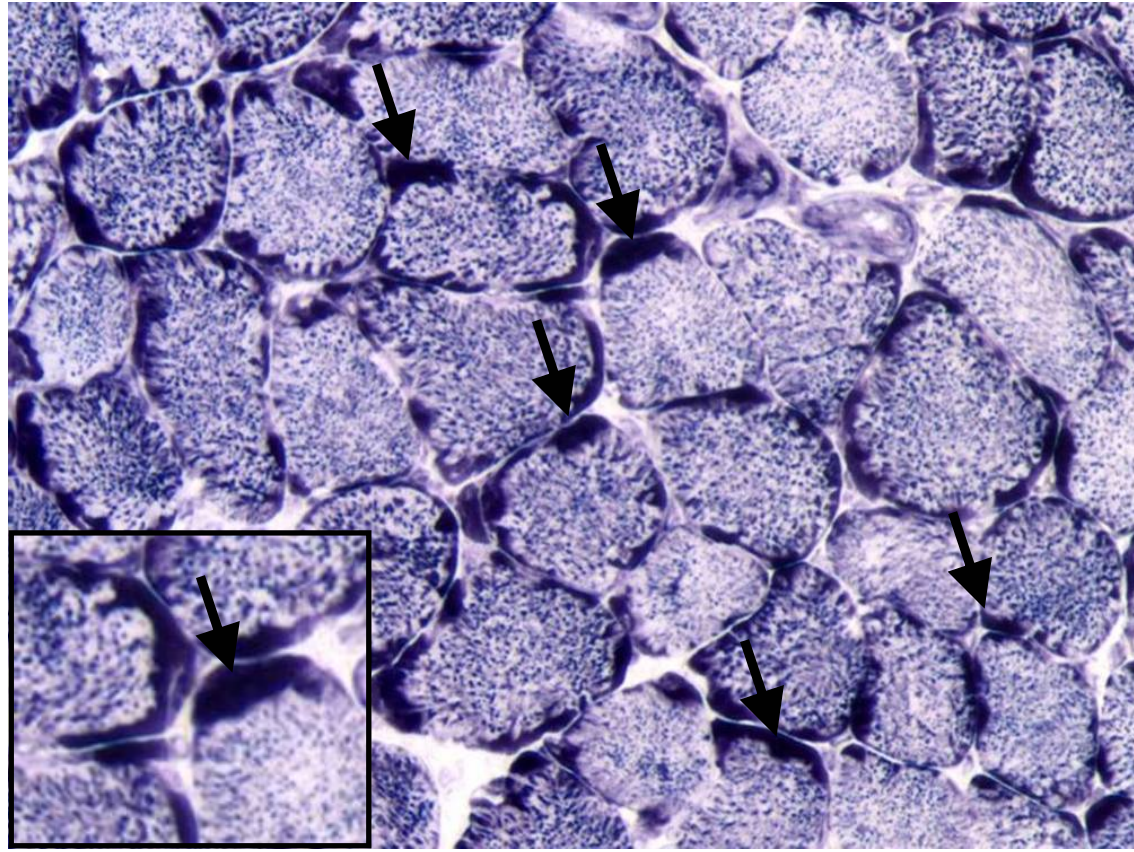
D) To evaluate which type of muscle fibers develop TAs, skeletal muscle sections from WT and Cav-2 deficient mice were subjected to immunofluorescence analysis with antibodies against SERCA-1 --a marker of type II fibers-- and SERCA-2 --a marker of type I fibers. Note that tubular aggregate formation is restricted to type II muscle fibers, which, however, abnormally express the SERCA-2 protein.

NADH

WT

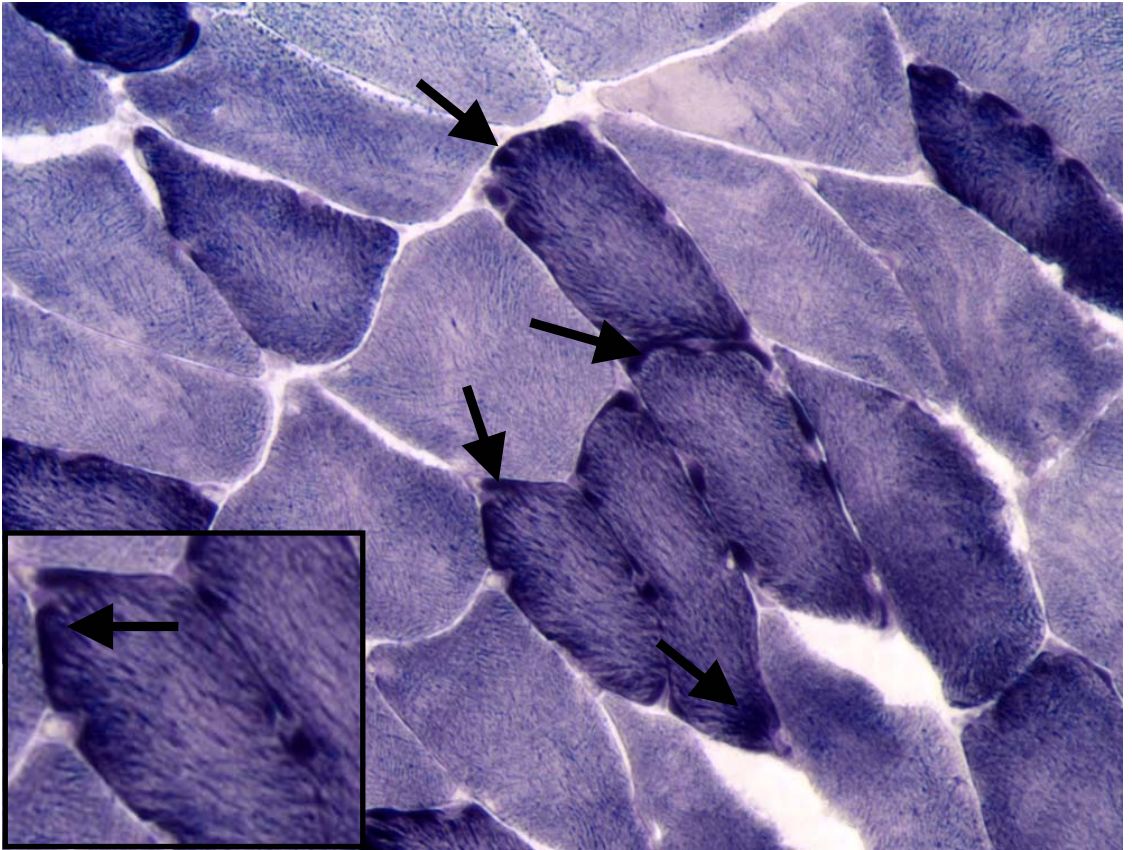


KO

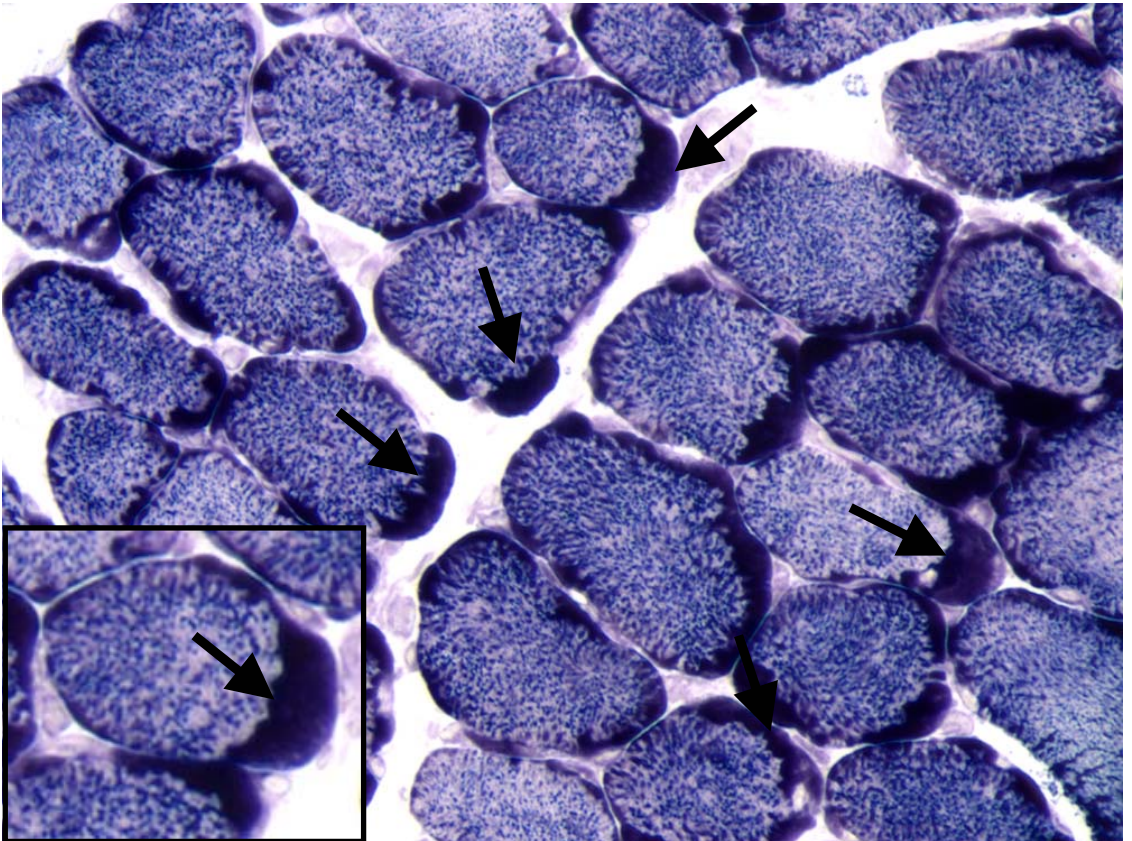


SDH

WT

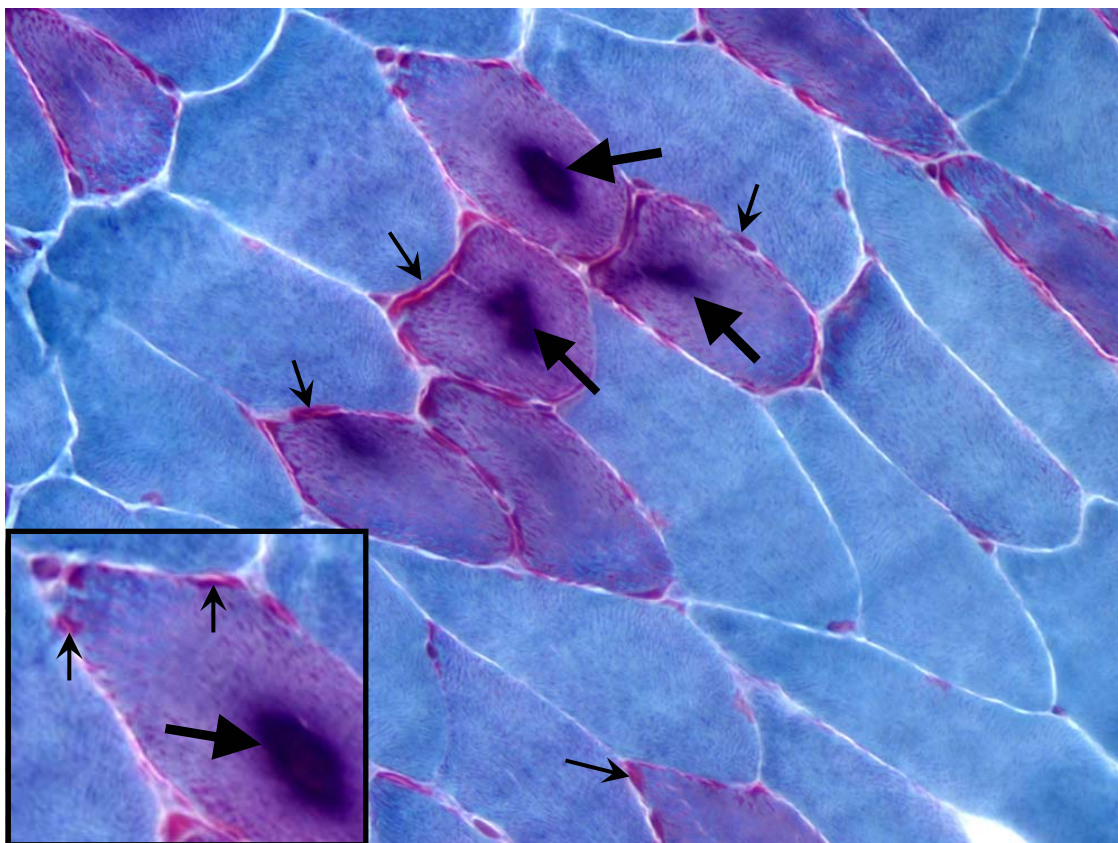


KO

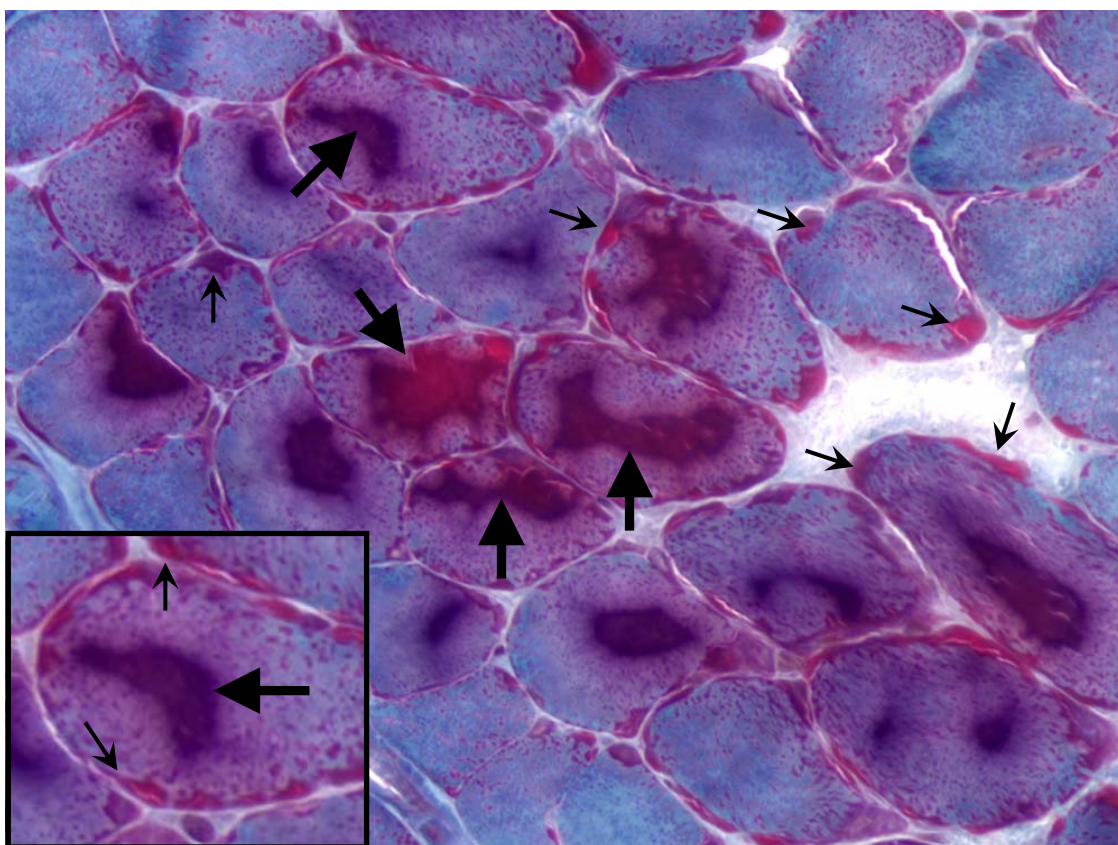


Trichrome

WT

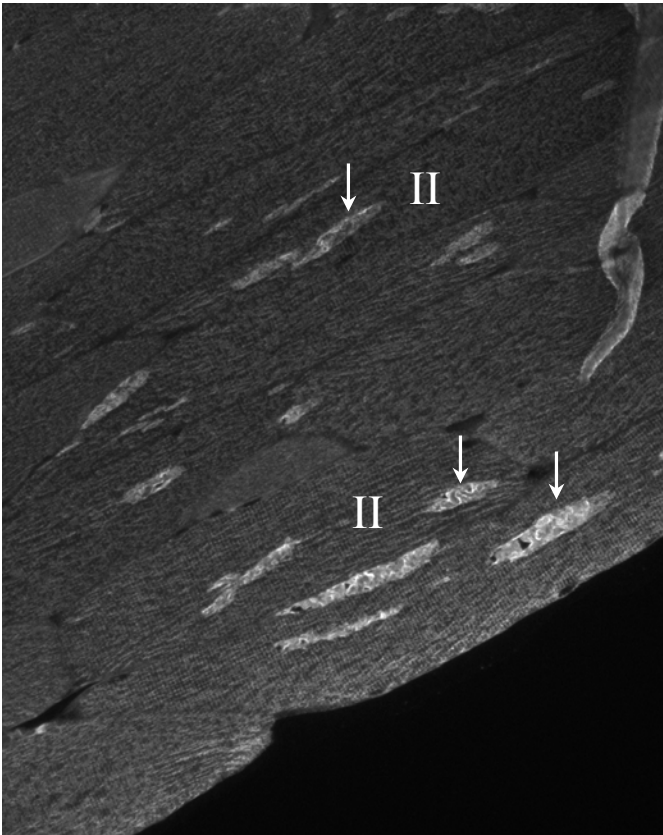


KO



Cav-2 KO

SERCA 1



SERCA 2

