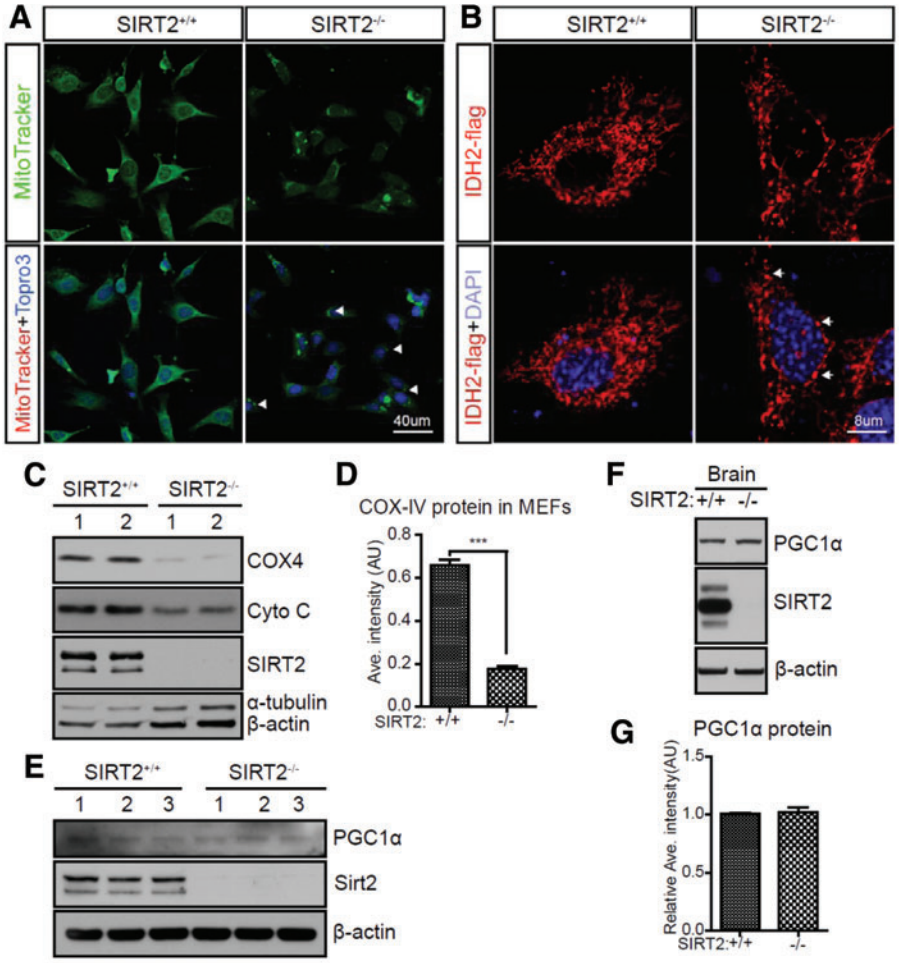

SUPPLEMENTARY FIG. S3. Loss of *Sirt2* changes the morphology of mitochondria in MEFs. **(A)** $Sirt2^{+/+}$ and $Sirt2^{-/-}$ MEFs were stained with MitoTracker (*green*) and To-pro3 (*blue*) and subjected to immunofluorescence microscopy. *White arrowheads* point to condensed mitochondria. Scale bar: 40 μm. **(B)** $Sirt2^{+/+}$ and $Sirt2^{-/-}$ MEFs were transfected with Flag-tagged IDH2 and stained with anti-IDH2. Mitochondria were visualized by anti-Flag staining. *White arrows* point to swollen mitochondria. Scale bar: 8 μm. **(C)** Wild-type and $Sirt2^{-/-}$ MEFs were harvested and, subsequently, immunoblotted with anti-COX-IV, cytochrome C (Cyto C), and SIRT2 antibodies. β-Actin and α-tubulin were used as the loading control. The Western blot shows that lower levels of COX-IV and cytochrome C were found in $Sirt2^{-/-}$ MEFs compared with controls. **(D)** Bar graph quantifies the relative expression levels of COX-IV in homogenates of wild-type and $Sirt2^{-/-}$ MEFs. Data are presented as the mean ± SEM ($n = 5$). $***p < 0.001$. **(E)** Western blot shows the expression level of PGC-1α in $Sirt2^{+/+}$ and $Sirt2^{-/-}$ MEFs. **(F)** Representative Western blot shows the expression level of PGC-1α in 24 month-old $Sirt2^{+/+}$ and $Sirt2^{-/-}$ mouse brains. **(G)** Bar graph quantifies the relative expression level of PGC-1α in homogenates of 24 month-old $Sirt2^{+/+}$ and $Sirt2^{-/-}$ mouse brains. Data are presented as the mean ± SEM ($n = 3$). IDH2, isocitrate dehydrogenase 2 (NADP+); MEF, mouse embryonic fibroblast; SEM, standard error of the mean.