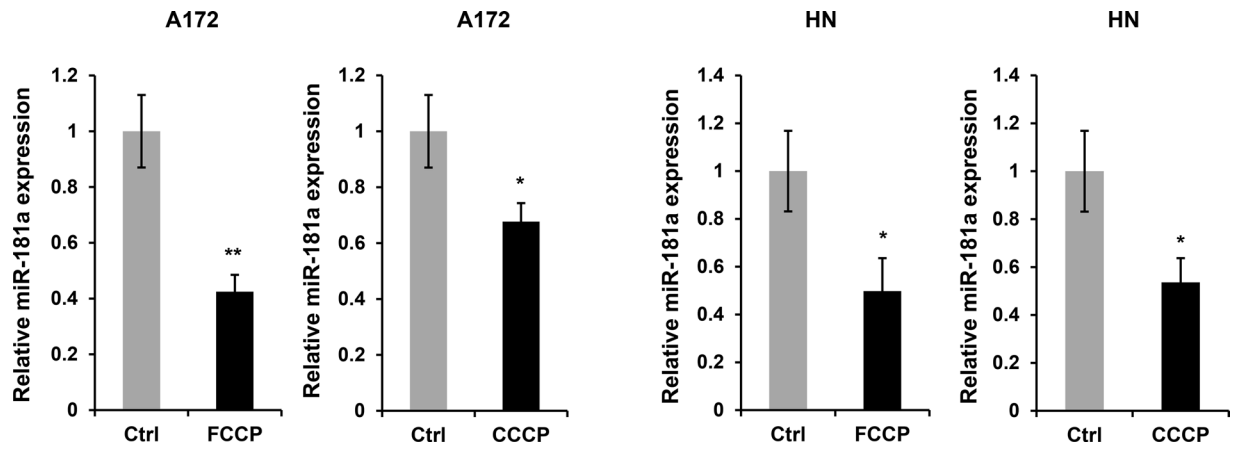
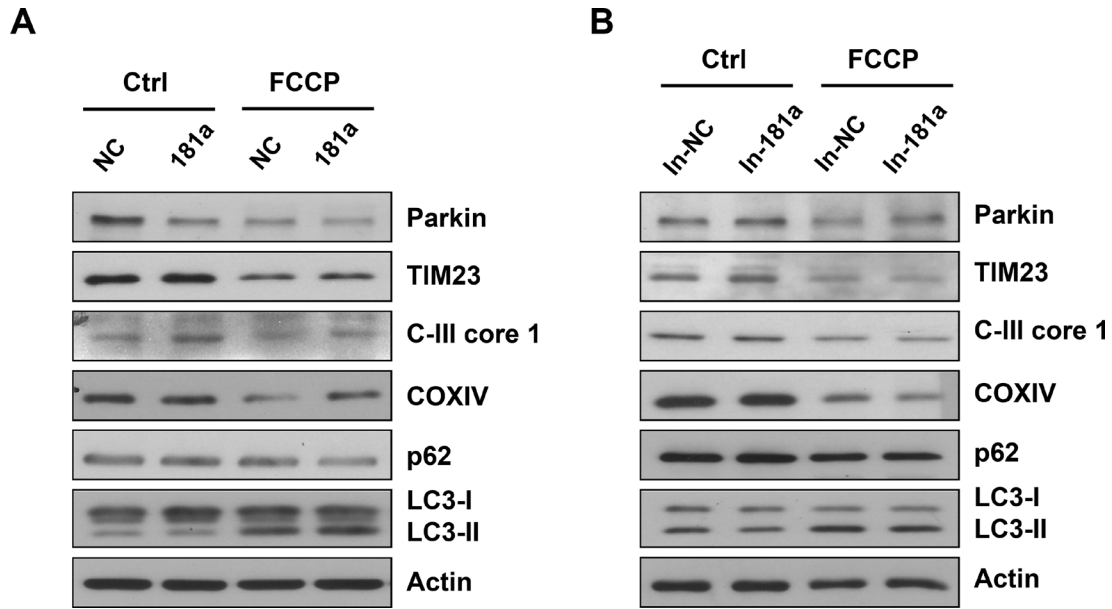


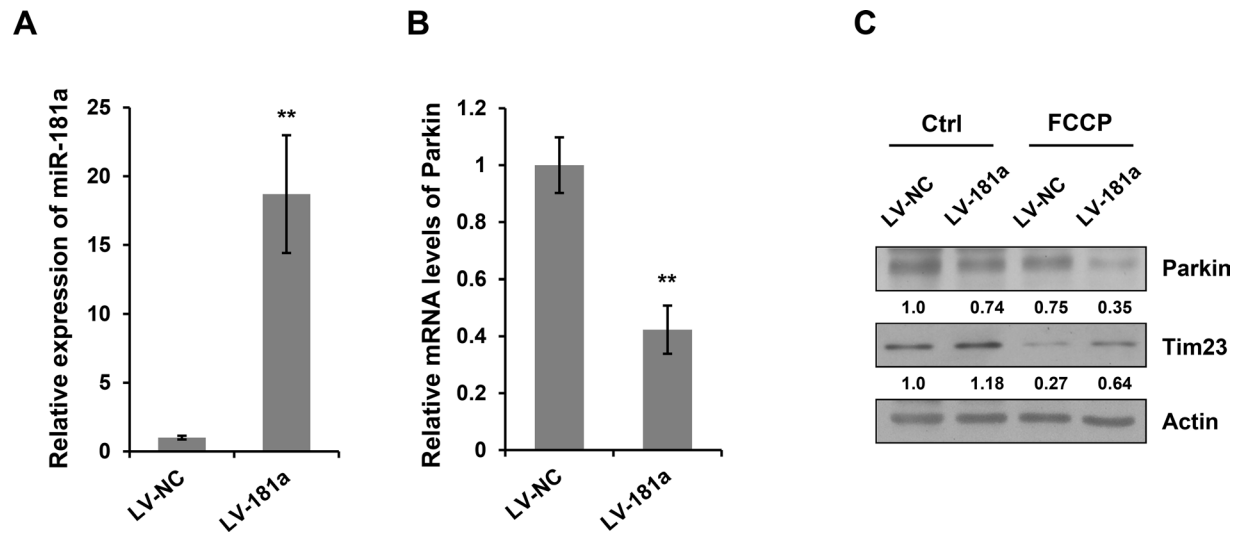
## SUPPLEMENTARY FIGURES



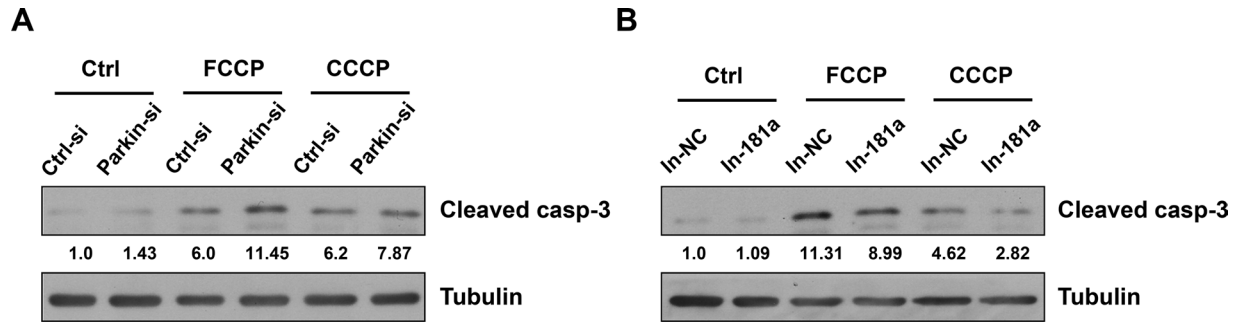
**Supplementary Figure S1: miR-181a is downregulated by mitochondrial uncouplers.** Analysis of miR-181a expression in human glioblastoma cell line A172 and primary human neurons (HN). Cells were treated with 10  $\mu$ M FCCP or CCCP for 6 h. Data shown are from three independent experiments, \* $p$ <0.05, \*\* $p$ <0.01.



**Supplementary Figure S2: The effect of miR-181a on mitochondrial uncoupler-induced mitophagy.** **A.** A172 cells transfected with miR-181a or NC were treated with 10  $\mu$ M FCCP for 12 h. Samples were collected for western blot to analyze the expression of TIM23, COXIV, C-III core, MFN1, LC3, p62, and Actin. **B.** A172 cells transfected with In-181a or In-NC were treated with 10  $\mu$ M FCCP for 12 h. Samples were collected for western blot analysis.



**Supplementary Figure S3: Stable transfection of miR-181a inhibits parkin expression and mitophagy.** **A.** Analysis of miR-181a expression in SH-SY5Y cells stably expressing miR-181a (Lv-181a) by lentiviral infection. **B.** Relative *Parkin* mRNA levels (compared with *Actin*) in SH-SY5Y cells stably expressing miR-181a (Lv-181a) or NC (Lv-NC) were analyzed by quantitative RT-PCR. Data are represented as means±s.d. from three independent experiments, and analyzed using the student *t* test (\*\* $p < 0.01$ ). **C.** SH-SY5Y cells stably expressing miR-181a or NC were treated with 10  $\mu$ M FCCP for 12 h. Samples were collected for western blot to analyze the expression of TIM23, Parkin, and Actin. Image J densitometric analysis of the TIM23/Actin and Parkin/Actin ratios from immunoblots is shown.



**Supplementary Figure S4: The effects of Parkin siRNA and miR-181a antagomir on mitochondrial uncoupler-induced apoptosis.** **A.** SH-SY5Y cells were transfected with control or Parkin siRNA, **B.** In-NC or In-181a and then treated with 25  $\mu$ M FCCP or CCCP for 24 h. Samples were collected for western blot to analyze the status of cleaved caspase-3 and Tubulin.