**SUPPLEMENTARY FIGURES**

**Supplementary Figure 1.** (A) SH-SY5Y and PC-12 cells were transfected with miR-199a-3p mimics or the miR-199a-3p inhibitor. qPCR was conducted to determine the transfection efficiency. (B) SH-SY5Y and PC-12 cells were treated with 1 mM MPP+ and transfected with the miR-199a-3p mimics, miR-199a-3p inhibitor, mimics NC or inhibitor NC. The relative expression of miR-199a-3p was determined by qPCR analysis.

**Supplementary Figure 2.** SH-SY5Y and PC-12 cells were transfected with shNC or shSp1, and transfection efficiency was determined by qPCR.
Supplementary Figure 3. SH-SY5Y and PC-12 cells were transfected with OE-NC or OE-Sp1, and transfection efficiency was determined by qPCR. OE: Overexpression.

Supplementary Figure 4. SH-SY5Y and PC-12 cells were transfected with OE-NC or OE-LRRK2, and the transfection efficiency was measured by qPCR. OE: Overexpression.