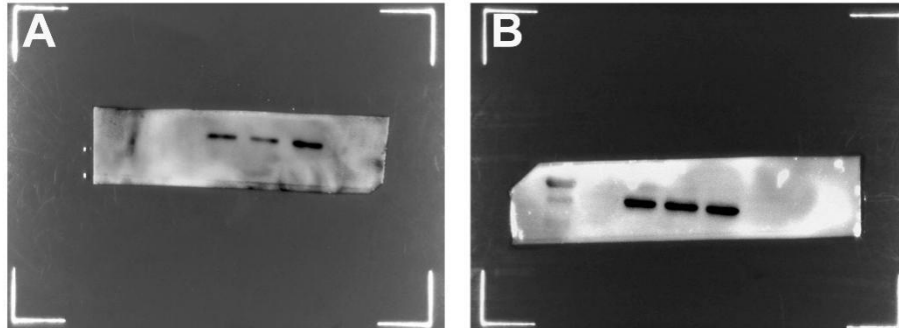


## Supplementary Files

### Supplementary Figure 1



**Supplementary figure from Figure 1B in the main article:** Western blot analysis of NMNAT3 protein expression. (A) NMNAT3 protein band detected by Western blots; (B) β-actin protein band detected by Western blots. Grouped from left to right: control group, Lv-EGFP, and Lv-NMNAT3.

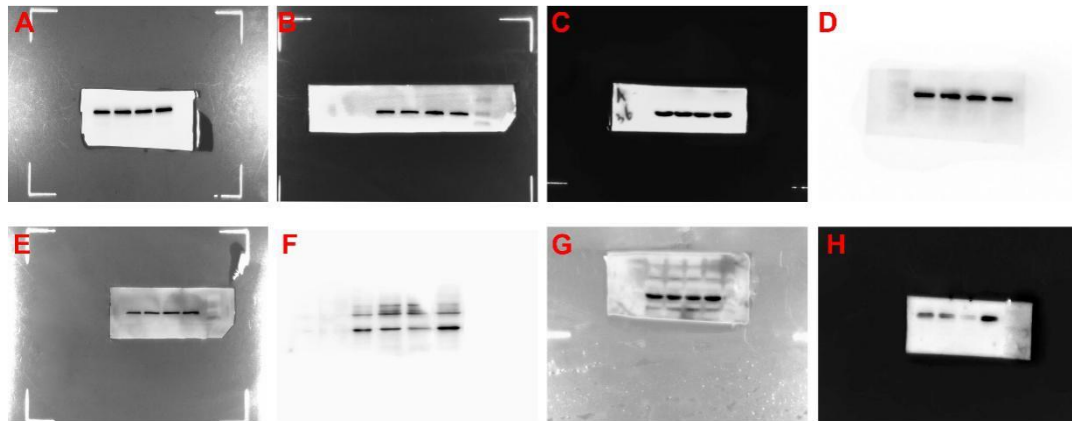
### Supplementary Figure 2



**Supplementary figure from Figure 2F in the main article:** Western blot analysis of PGC-1α and NRF1 expression in mitochondria. (A) PGC-1α protein band detected by Western blots; (B) NRF1 protein band detected by Western blots; (C) COX IV protein band detected by Western blots. Grouped from left to right: BMSCs, BMSCs+H<sub>2</sub>O<sub>2</sub>,

BMSCs/Lv +H<sub>2</sub>O<sub>2</sub>, BMSCs/NMNAT3+H<sub>2</sub>O<sub>2</sub>, and BMSCs/NMNAT3+3-TYP+H<sub>2</sub>O<sub>2</sub>.

### Supplementary Figure 3



**Supplementary figure from Figure 4A in the main article:** Western blot analysis of Sirt3, Idh2 and FOXO3a levels in BMSCs, Acetylated Idh2 and FOXO3a were isolated by immunoprecipitation with anti-Idh2 and anti-FOXO3a antibody followed by western blotting with anti-acetyl-lysine antibody. (A) Sirt3 protein band detected by Western blots; (B) Idh2 protein band detected by Western blots; (C) FOXO3a protein band detected by Western blots; (D) COX IV protein band detected by Western blots; (E) Idh2 protein band detected by Western blots with anti-Idh2 antibody; (F) Acetylated Idh2 protein band detected by Western blots with anti-acetyl-lysine antibody; (G) FOXO3a protein band detected by Western blots with anti-FOXO3a antibody; (H) Acetylated FOXO3a protein band detected by Western blots with anti-acetyl-lysine antibody. Grouped from left to right: BMSCs+H<sub>2</sub>O<sub>2</sub>, BMSCs/Lv +H<sub>2</sub>O<sub>2</sub>, BMSCs/NMNAT3+H<sub>2</sub>O<sub>2</sub>, and BMSCs/NMNAT3+3-TYP+H<sub>2</sub>O<sub>2</sub>.