

**Figure S1.** (A) The experimental protocol is related to Figure 1 and schematic panel illustrates the study design; (B) Western blot assay of MFN2, OPA1 p-Drp1 and Drp1 expression in total homogenate; (C) Micrographs of mitochondria observed using a transmission electron microscopy in Figure 2C and quantitative analysis of average mitochondrial length in five CD4<sup>+</sup>T cells; (D) quantitative analysis of BCL-2 and Bax. The results are shown as the mean  $\pm$  SD, n=5. \*(P< 0.05) vs the sham group, \*\*\*(P< 0.001); <sup>&</sup>(P< 0.05) vs the CLP group, <sup>&&</sup>(P< 0.01).



**Figure S2.** (A)The experimental protocol is related to Figure 4 and schematic panel illustrates the study design; (B) Expression levels of CD4 and CD69 by flow cytometric analysis in CD4<sup>+</sup>T cells; (C) Micrographs of mitochondria observed using a transmission electron microscopy in Figure 6A and quantitative analysis of average mitochondrial length in five CD4<sup>+</sup>T cells. The results are shown as the mean  $\pm$  SD, n=5. \*\*\*(P< 0.001) vs the sham group; <sup>&&</sup>(P< 0.01) vs the CLP group.



**Figure S3.** (A) quantitative analysis of BCL-2 and Bax; (B) The experimental protocol is related to Figure 8, 9 and schematic panel illustrates the study design; (C) Western blot assay and quantitative analysis of GRP78 and CC3 expression. The results are shown as the mean  $\pm$  SD, n=5. \*(P< 0.05) vs the Control group, \*\*\*(P< 0.001); <sup>&</sup>(P< 0.05) vs the CLP group, <sup>&&</sup>(P< 0.01), <sup>&&&</sup>(P< 0.001).