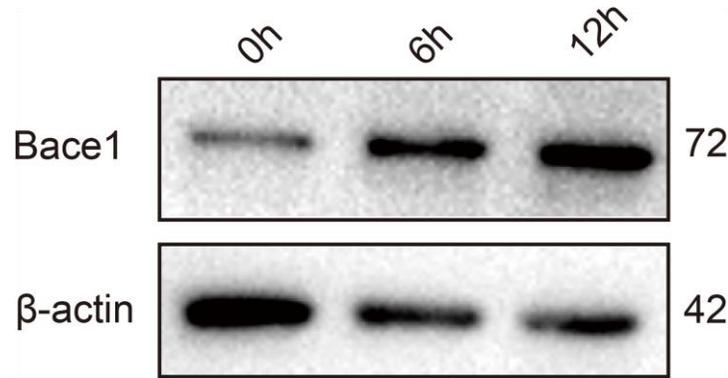
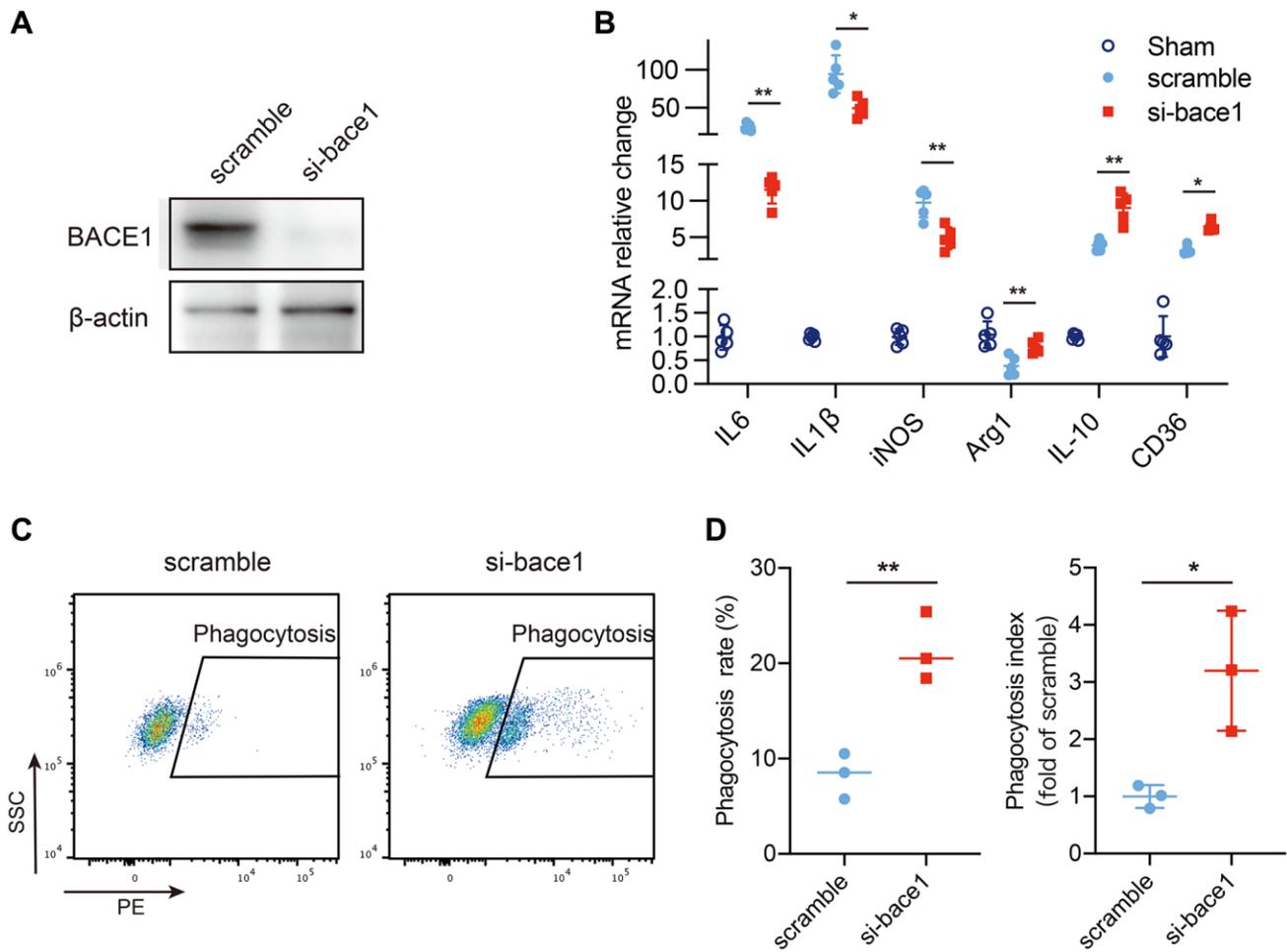


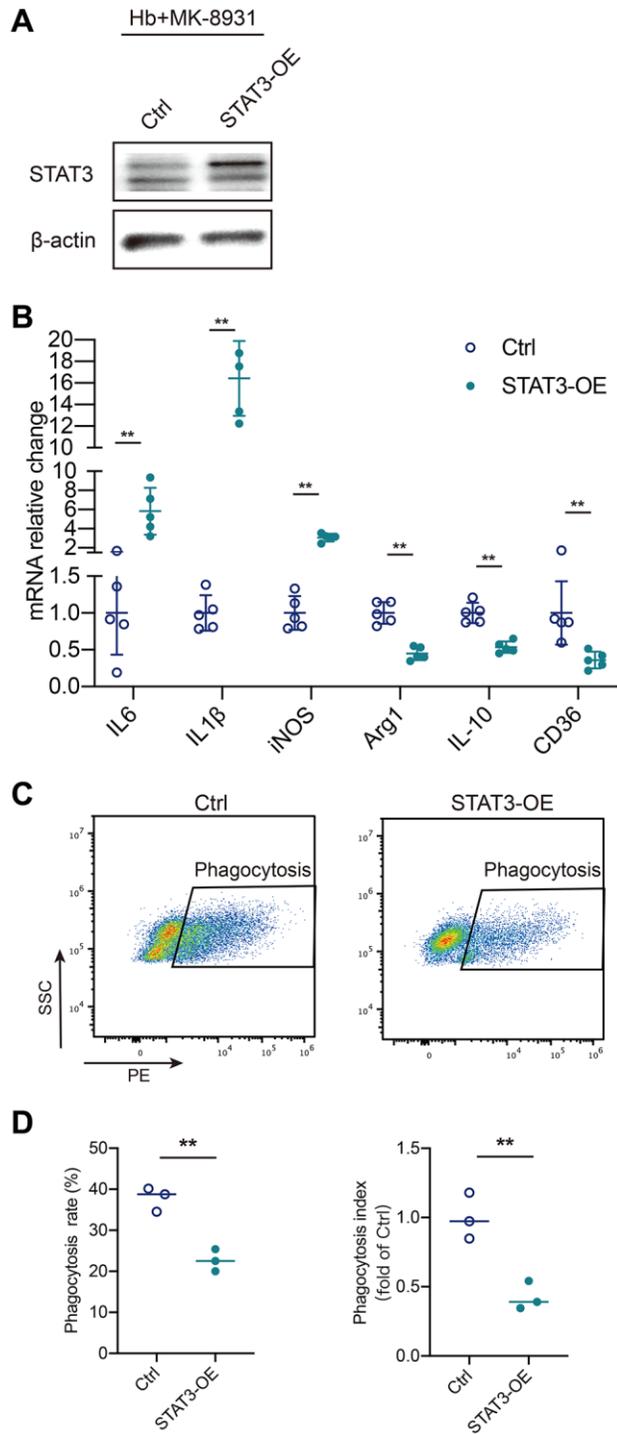
SUPPLEMENTARY FIGURES



Supplementary Figure 1. Representative blot images of BACE1 protein levels in primary cultured mouse microglia post-hemoglobin stimulation.



Supplementary Figure 2. BACE1 induced pro-inflammatory microglia and impaired the phagocytosis *in vitro*. *In vitro* ICH model was induced in PMG by 12 h hemoglobin stimulation. (A) Confirmation of siRNA-targeted Bace1 transfection by immunoblotting. (B) Genes expression is shown in the bar graphs, with data from at least 5 independent experiments. Data are shown as relative change of Sham group, \* $P < 0.05$  and \*\* $P < 0.01$ . (C, D) *In-vitro* analysis of PMG erythrophagocytosis by flowcytometry. All Data are presented as mean  $\pm$  SD. \* $p < 0.05$ , \*\* $p < 0.01$ .



**Supplementary Figure 3. STAT3 rescue diminished the effects of MK-8931 in PMG.** (A) The validation of STAT3 overexpression in PMG by immunoblotting. (B) STAT3 overexpressed microglia showed higher pro-inflammatory genes mRNA levels while impaired the anti-inflammatory and pro-phagocytosis genes expression under MK-8931 treatment. (C, D) *In-vitro* analysis of PMG erythrophagocytosis by flowcytometry. STAT3 overexpression blocked the BACE1 inhibitor effect. All Data are presented as mean  $\pm$  SD. \*\* $p < 0.01$ .