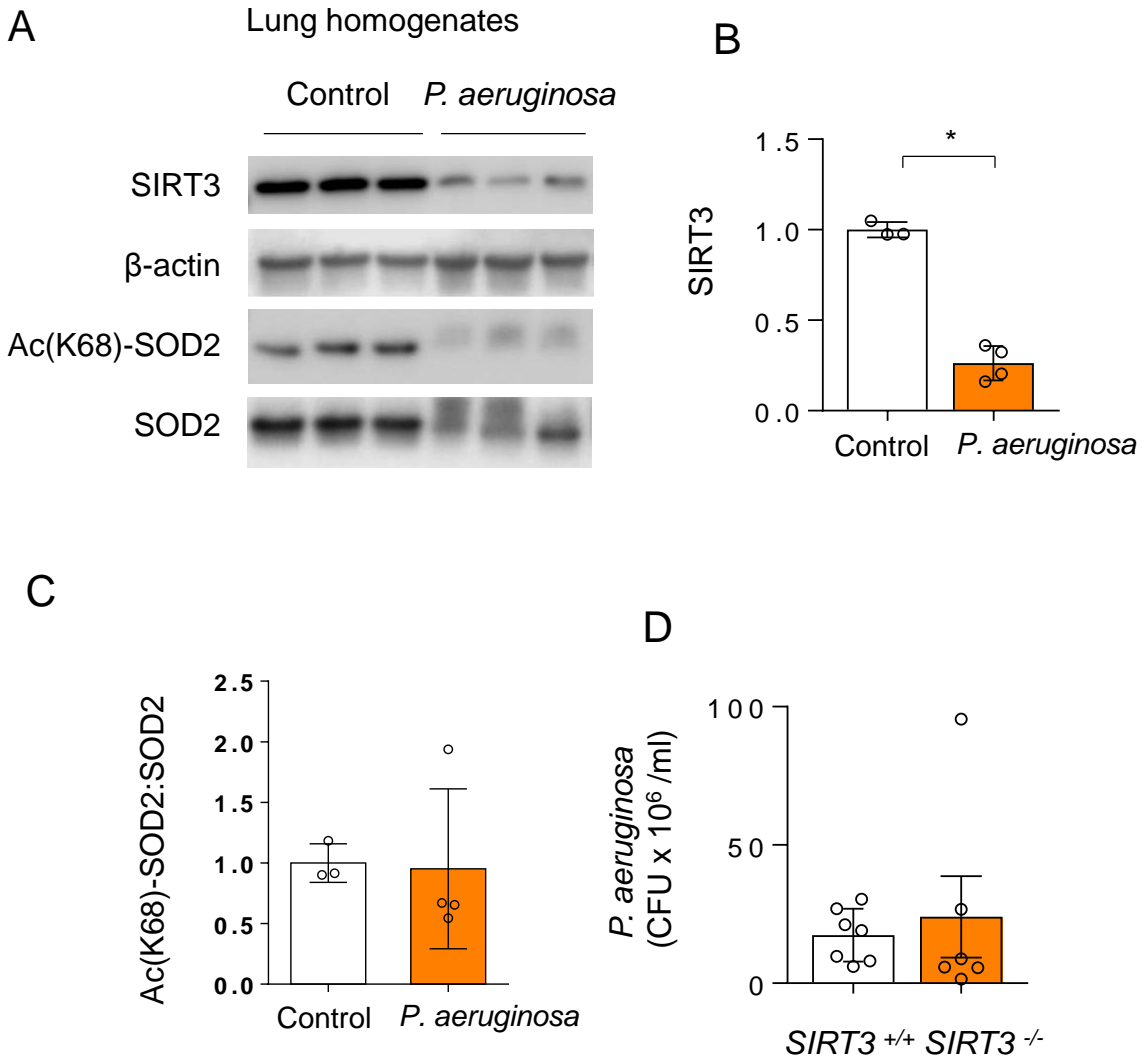
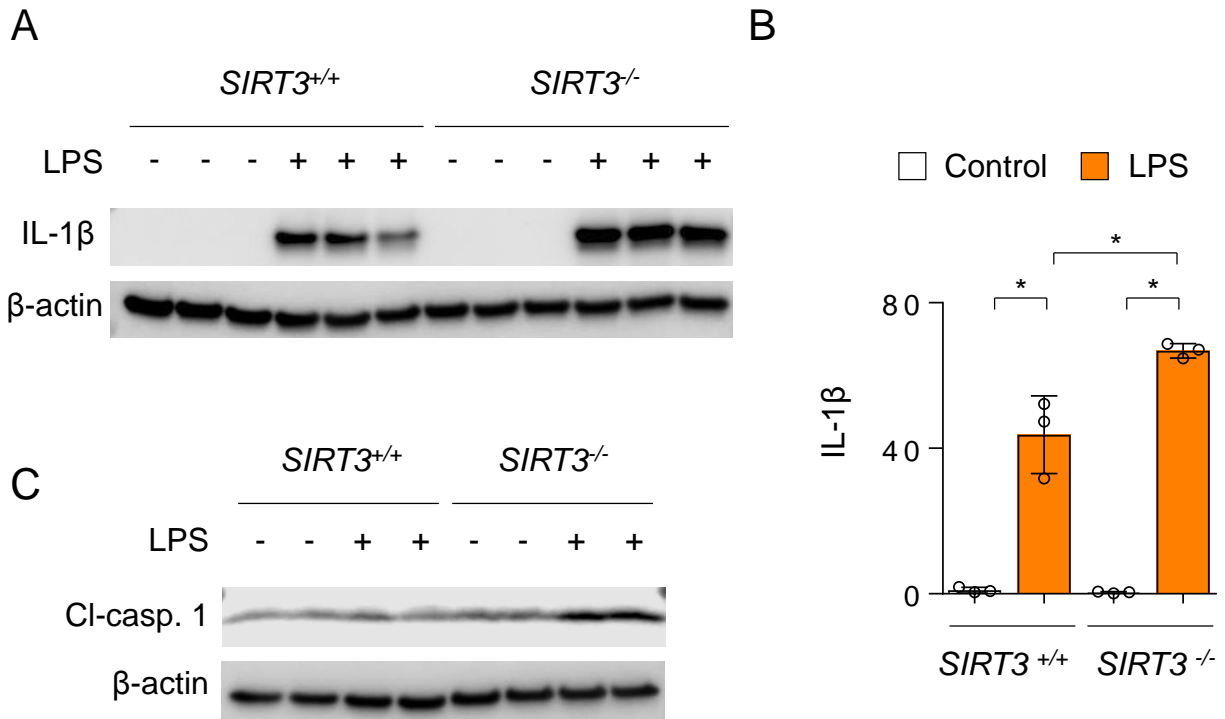


Supplementary Figure 1



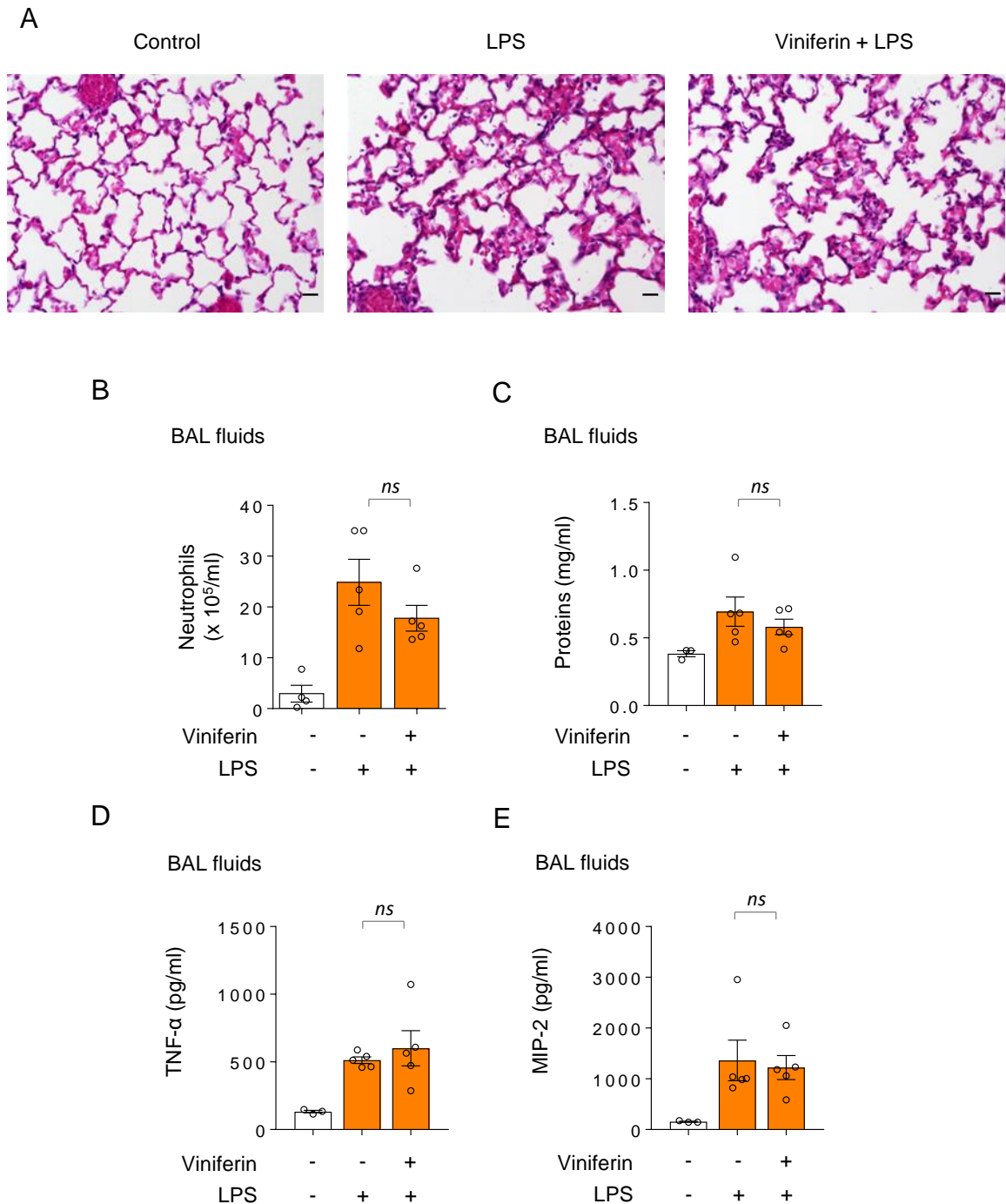
Supplementary Figure 1. SIRT3 is diminished in the lungs of mice subjected to *P. aeruginosa*-induced pneumonia. (**A**, **B**, **C**) Representative Western blots and optical band densitometry of SIRT3, Ac(K68)-SOD2 and total amounts of SOD2 from lung homogenates of control or mice subjected to *P. aeruginosa* (strain K; i.t.) for 4 hours. Means \pm s.e.m., $n = 3-4$, $*P < 0.05$. (**D**) Colony forming units (CFU) of *P. aeruginosa* in the lung homogenates of control and infected mice. Means \pm s.e.m., $n = 6-7$ mice per group; $*P < 0.05$.

Supplementary Figure 2



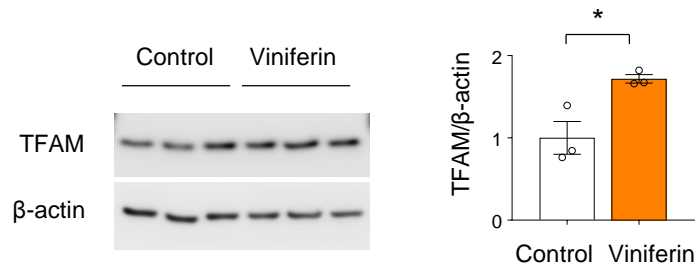
Supplementary Figure 2. SIRT3 deficiency is associated with enhanced production of IL-1 β . **(A,B)** Representative western blots and optical band densitometry of IL-1 β in lysates from wild-type and SIRT3 deficient peritoneal macrophages. Cells were treated with LPS (0 or 3 ng/ml) for 4 hours. Means \pm s.d., $n = 3$; $*P < 0.05$ (ANOVA). **(C)** Representative immunoblots of cleaved caspase 1 (Cl-casp.1) and β -actin from wild-type or SIRT3 deficient peritoneal macrophages. Cells were treated with or without LPS, as indicated.

Supplementary Figure 3



Supplementary Figure 3. Lung protective and anti-inflammatory effects of viniferin are absent in *SIRT3*^{-/-} mice. **(A)** *SIRT3*^{-/-} mice subjected to saline, LPS (3 mg/kg; i.t.) for 24 hours. Mice were also treated with/without viniferin (0 or 120 mg/kg, i.p.) once a day for 3 consecutive days prior to LPS exposure. Representative images show H&E staining of lung sections. Scale bar: 20 μm . **(B,C)** neutrophil content **(B)**, protein amounts **(C)**, and TNF- α **(C)** and MIP-2 **(D)** cytokine levels were determined in bronchoalveolar lavage (BAL) fluids from *SIRT3*^{-/-} mice subjected to LPS with/without viniferin treatment. Data presented as means \pm s.e.m., $n = 3-5$ mice per group; *ns* = not significant.

Supplementary Figure 4



Supplementary Figure 4. Viniferin increases TFAM accumulation in macrophages. Representative western blots and optical band densitometry for TFAM and β -actin from macrophages treated with viniferin (0 or 1 μ M) for 24 hours. Means \pm s.e.m., $n = 3$, $*P < 0.05$.