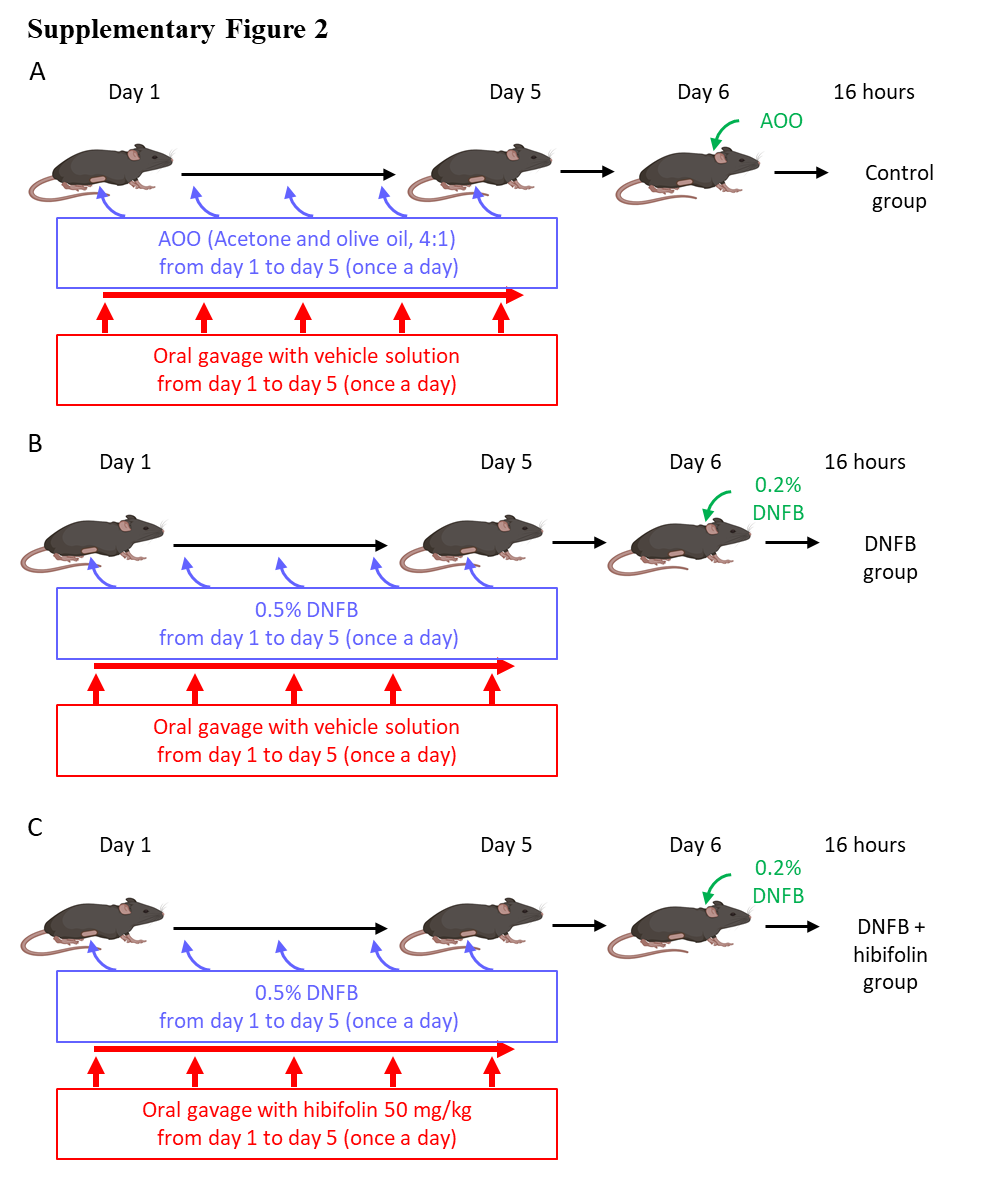


**Supplementary Figure S1:** BMDC Purification and Flow Cytometry Gating Strategy.(**A**) BMDCs were magnetically labeled using CD11c MicroBeads UltraPure and purified via magnetic separation to obtain CD11c+ BMDCs, with post-purification purity consistently exceeding 80%. (**B**) Flow cytometric analysis was then performed. Cells were first gated based on forward scatter (FSC) and side scatter (SSC) to exclude debris and non-cellular events. Subsequently, CD11c+ BMDCs were gated, and 10,000 CD11c+ BMDC events were collected per sample. Finally, histograms were used to analyze the expression levels of CD80, CD86, and MHC class II antibodies within the CD11c+ BMDC population. (Created with BioRender.com and PowerPoint.).



**Supplementary Figure S2:** Induction of CHS (Groups and treatments). On day 1, the central abdominal area of C57BL/6 mice was locally shaved (approximately 1 cm × 3 cm) to facilitate sensitization (**A**) Control group: From Day 1 to Day 5, mice were topically sensitized with AOO (acetone:olive oil, 4:1) on the shaved abdominal area and simultaneously received oral administration of the vehicle solution. On Day 6, they were challenged with AOO applied to the ears. (**B**) DNFB group: From Day 1 to Day 5, mice were sensitized with 0.5% DNFB applied to the shaved abdominal area and simultaneously administered the vehicle solution orally. On Day 6, they were challenged with 0.2% DNFB on the ears. (**C**) Hibifolin group: From Day 1 to Day 5, mice were sensitized with 0.5% DNFB on the shaved abdominal area and simultaneously administered hibifolin (50 mg/kg/day) orally. On Day 6, they were challenged with 0.2% DNFB on the ears. Hibifolin was dissolved in a vehicle solution consisting of 10% Cremophor EL and 0.9% NaCl. (Created with BioRender.com and PowerPoint.).