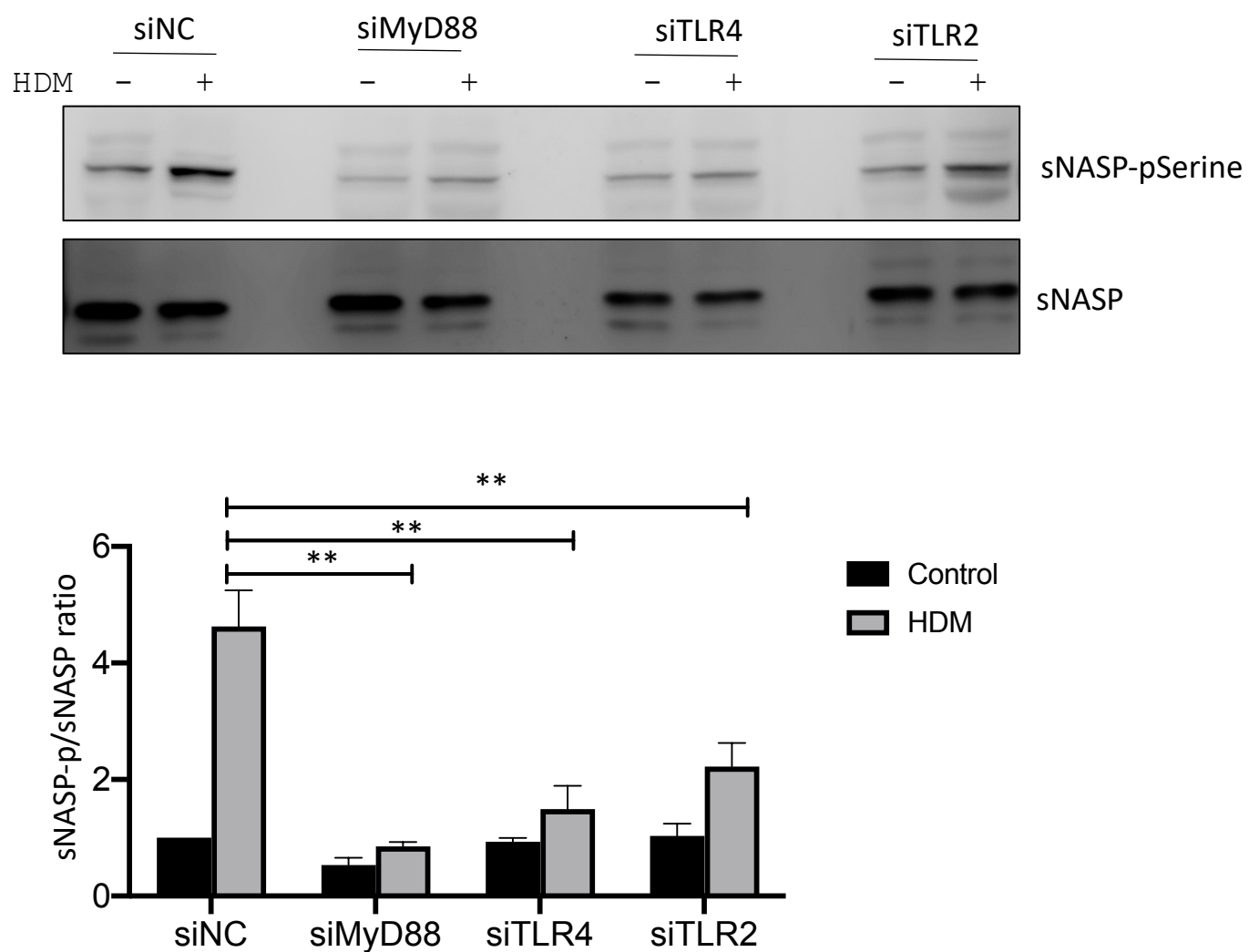
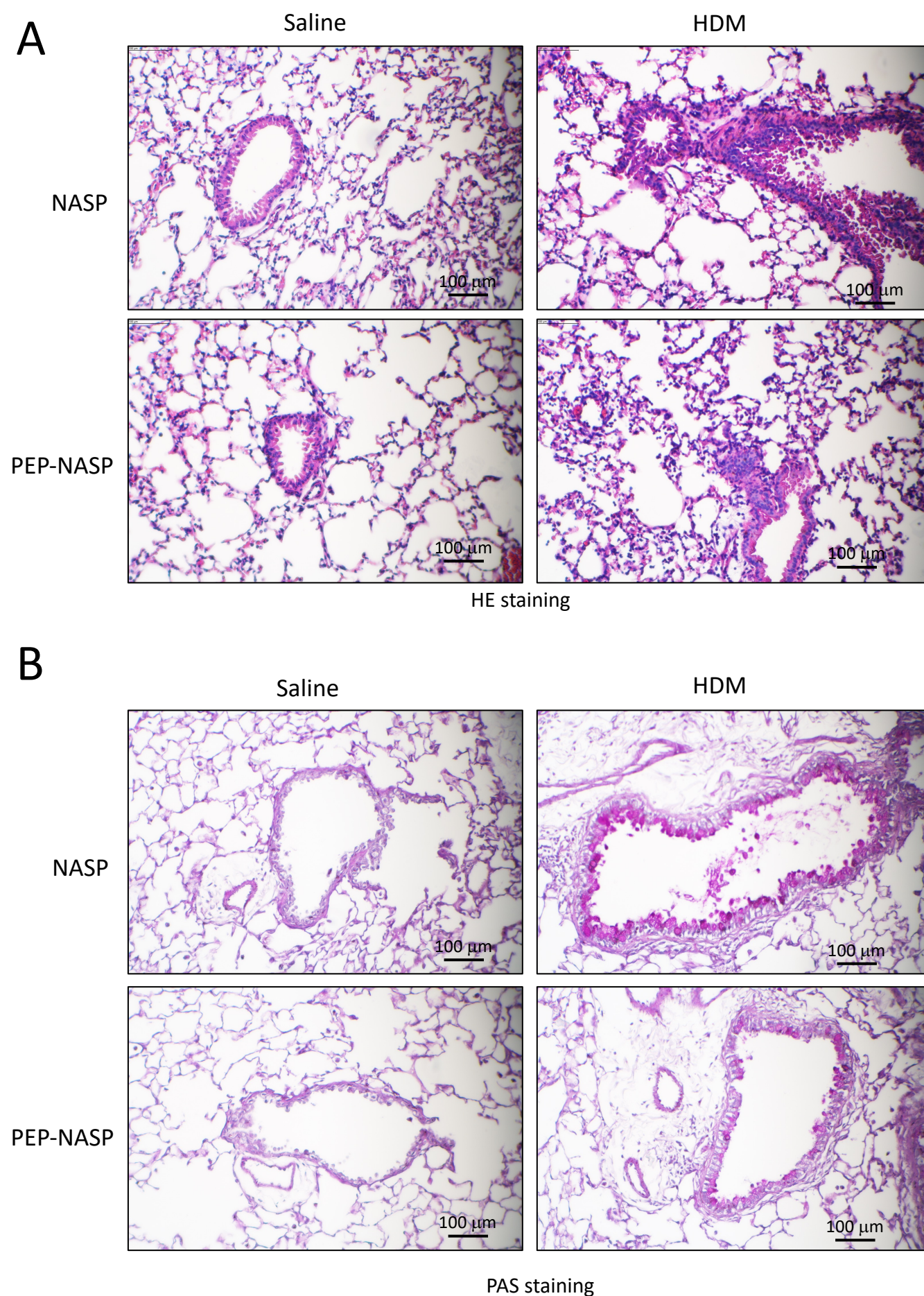


**Figure S1.** The siRNA knockdown efficacy in airway epithelial cells. 16HBE cells were transfected with indicated siRNA and results were normalized to the expression of ACTB (encoding  $\beta$ -actin) and control (siNC) cells. Data are representative of three independent experiments and presented as the mean  $\pm$ SEM. \*\*  $p < 0.01$



**Figure S2.** HDM mediates sNASP phosphorylation via TLR2/4-MyD88 signaling. 16HBE cells were transfected with indicated siRNA followed by stimulated with HDM for 24 h and assessed by an immunoblotting (IB) analysis with anti-pSerine158-sNASP and sNASP antibodies. Densitometric analysis of the Western blot shown below. Data are representative of three independent experiments and presented as the mean  $\pm$ SEM. \*\*  $p < 0.01$



**Figure S3.** Effects of the PEP-NASP peptide on the inflammation and mucus production in airway.

Lungs from each group of mice were fixed and stained with H&E (A) and PAS (B). Images of lung sections were captured by microscope (magnification, x200); scale bar = 100  $\mu$ m. ( $n$  = 10 per group per experiment).