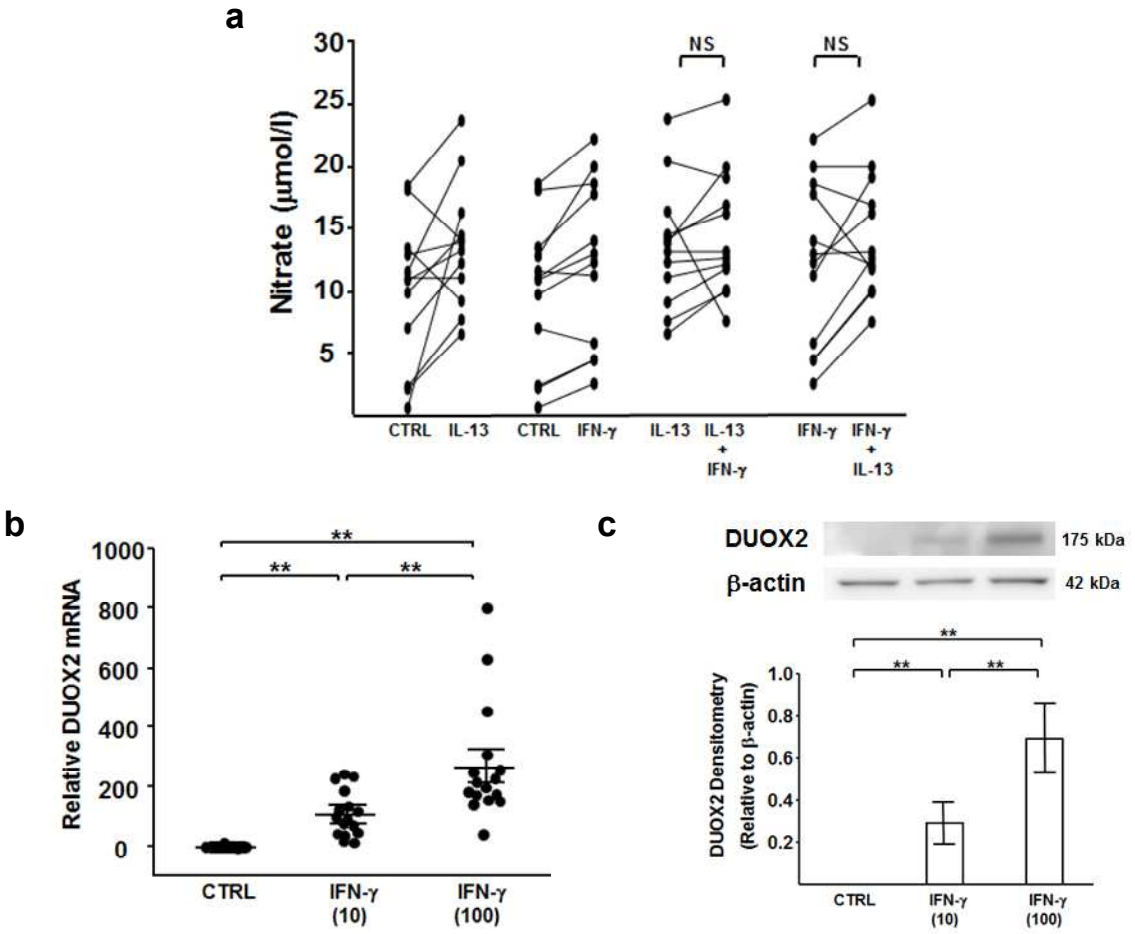
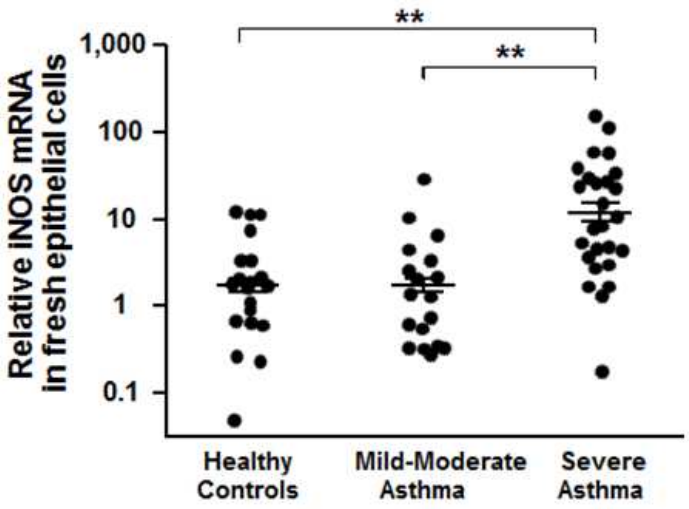
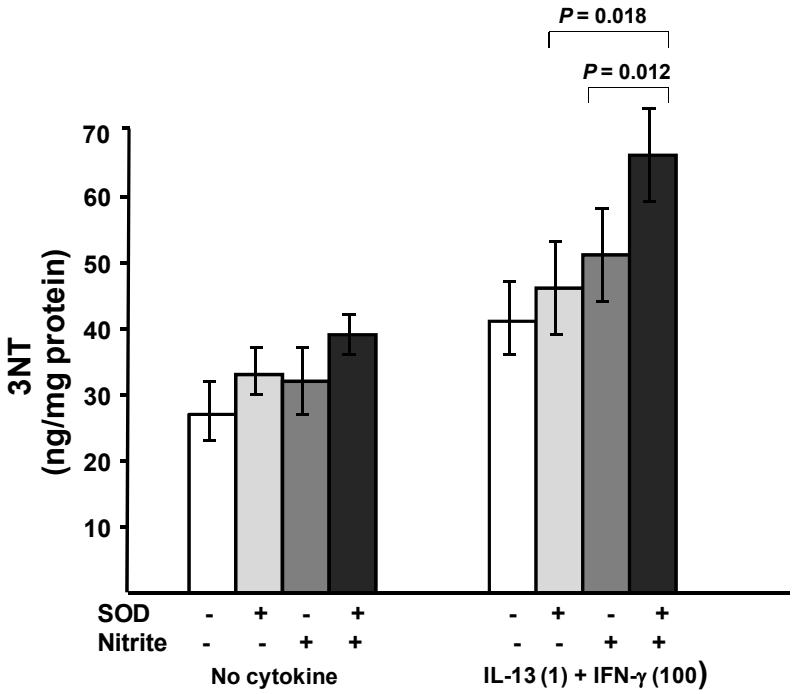
SUPPLEMENTARY MATERIAL



Supplementary Figure 1 Nitrate levels and DUOX2 expression in HAEC. ALI-cultured cells were treated with IL-13 (1 ng/ml) or media for 8 d, with/without exposure to IFN-γ for final 72 h. mRNA was harvested for real-time PCR. Total proteins were harvested for Western blot analysis. Nitrate levels were measured in the lower supernatants. (**a**) Unlike nitrite, nitrate did not increase with the combination of low-dose IL-13 (1 ng/ml) and IFN-γ (10 ng/ml). *n*=12. NS, not significant. **(b** and **c)** IFN-γ dose-dependently increased DUOX2 mRNA and protein. Overall $P<0.01$, $^{**}P<0.001$. Densitometry values were shown as mean±SEM.



Supplementary Figure 2 iNOS expression in fresh epithelial cells. Expression of iNOS mRNA was increased in fresh bronchial epithelial cells from SA compared to MMA and NC. Overall $P<0.001$, $^{**}P<0.001$. Values were mean±SEM.



Supplementary Figure 3 3NT expression in the presence of SOD and nitrite. ALI-cultured cells were treated with low-dose IL-13 (1 ng/ml) or media for 8 d, with/without exposure to IFN-γ (100 ng/ml) for the last 72 h. At day 8, culture medium from the apical chamber was removed, and 100 µl PBS with/without one of the following was added: SOD (150 U/ml), nitrite (25 µM), or the combination of SOD and nitrite. After 1-h incubation, cell lysates were harvested for 3NT measurement. In the presence of IL-13 and IFN-γ, the combination of SOD and nitrite enhanced 3NT expression more than either SOD alone (P = 0.018, two-tailed paired t-test, n = 3) or nitrite alone (P = 0.012). Values are presented as mean+SEM.

Supplementary Table 1. Demographics of subjects in TPO microarray experiments (*n* = 108)

	Normal control (*n* = 20)	**Mild-Moderate asthma (*n* = 50)**	**Severe asthma (*n* = 38)**
Female gender	11 (55%)	35 (70%)	28 (74%)
Age (years)	33.2 ± 13.1	33.0 ± 11.4	44.4 ± 10.1*
Race (Caucasian/AA/other)	14/3/3	29/14/7	22/14/2
BMI	25.1 ± 5.1	29.6 ± 6.7*	31.9 ± 6.5*
Baseline FEV_1	94.9 ± 9.0	83.8 ± 15.5*	57.3 ± 21.5*
Baseline FVC	97.2 ± 12.0	91.2 ± 14.6	73.2 ± 19.0*

*P<0.05 versus Normal control. AA, African American; FEV_1, forced expiratory volume in 1 second; FVC, forced vital capacity.