



Pathway activation (■) or inhibition (■) prediction z-score →  
 \*Each compared to healthy control group with a z-score (length of the bars) ranged from -4.1 (inhibition) to 5.4 (activation)

Figure S5. Pathway activation and inhibition prediction from IPA pathway enrichment analysis. A positive z-score indicates an activated pathway (green bar) and a negative z-score signifies an inhibited pathway (red bar). The length of the bar reflects the absolute z-score. IPA analysis was done using genes with significant differential expression ( $P < 0.05$ ) and absolute fold-change  $\geq 1.5$ . The intensity values in the nasal data set were adjusted for cell type-specific signal using the R program "DSA" (Digital Sorting

Algorithm, Zhong et al. BMC Bioinformatics. 2013; 14:89). The pathways shown are those significantly activated or inhibited ( $p < 0.01$ ) with mapping of at least 5% of genes. Whether the pathway is predicted to be activated or inhibited is based on the sign of the z-score value.