1. No.
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2. Title
   Defining the mechanism of committed club cell dedifferentiation into basal stem cells

3. Period
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4. Summary
   Tracheobronchial squamous metaplasia is a precursor lesion to squamous carcinoma in smokers. However, the cell of origin of squamous metaplasia and the mechanism that underlies the development of squamous metaplasia remain largely unknown. Here, we show that inhibition of Notch signaling can induce lineage conversion of club cells into basal stem cells, which can generate squamous cells. Using lineage tracing and single-cell transcriptomics, we find that club cells can convert into basal cells by inactivating Notch signaling. Induced basal cells show heterogeneity in the cell population. The clusters of iB cells express the squamous maker Krt4+ or/and Krt13+. Following the neoplastic process, we also reveal that iB cells can generate squamous-like cells expressing Krt13 in the mouse trachea. Our results demonstrate club cell plasticity by inhibiting Notch signaling, suggesting a potential understanding of the development of tracheobronchial squamous metaplasia.