

## **Description for Supplementary Data files**

File Name: Supplementary Data 1

Description: This file contains the gene enrichment analysis of IL11, IL11RA and IL6 in human lung scRNA-seq datasets.

File Name: Supplementary Data 2

Description: This file contains the pathway analysis of IL11 co-expressed genes in human lung scRNA-seq datasets.

File Name: Supplementary Data 3

Description: This file contains the genes co-expressed with IL11 in human lung scRNA-seq datasets.

File Name: Supplementary Data 4

Description: This file contains the top 100 significantly upregulated genes in TGF $\beta$ 1-stimulated HPAEpiC compared to baseline.

File Name: Supplementary Data 5

Description: This file contains the enriched pathways in KRT8<sup>+</sup> transitional cells from bleomycin-injured Sftpc-CreER; Il11ra1-floxed vs. control mice.

File Name: Supplementary Data 6

Description: This file contains the differentially expressed genes in Krt8<sup>+</sup> transitional cells between bleomycin-injured Sftpc-CreER; Il11ra1-floxed vs. control mice.

File Name: Supplementary Data 7

Description: This file contains the enriched pathways in Krt8<sup>+</sup> transitional cells from bleomycin-injured Sftpc-tdT mice treated with X203 vs. IgG antibodies.