**Table S2. Significance of enrichment scores for single-cell signatures in named cell types.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **COPD** | | | **Asymptomatic** | | |
| **Cell Type** | **P-value** | **T-Statistic** | **Standard Error** | **P-value** | **T-Statistic** | **Standard Error** |
| Activated endothelium | 6.64E-03 | 2.86 | 0.13 | 7.98E-01 | 0.26 | 0.11 |
| All Basal cells | 8.43E-02 | 1.76 | 0.08 | 2.79E-02 | 2.25 | 0.08 |
| B cells | 7.55E-03 | 2.79 | 0.13 | 5.47E-01 | 0.61 | 0.12 |
| Proliferating Basal cells | 4.60E-05 | -4.49 | 0.12 | 2.30E-05 | -4.54 | 0.12 |
| Ciliated cells | 1.64E-01 | 1.42 | 0.12 | 4.54E-01 | 0.75 | 0.10 |
| Club and Goblet cells | 5.96E-03 | -2.93 | 0.09 | 2.53E-10 | -7.41 | 0.08 |
| Fibroblasts | 1.38E-03 | 3.41 | 0.12 | 1.72E-01 | 1.38 | 0.13 |
| Inflammatory DCs | 8.82E-02 | 1.74 | 0.11 | 3.64E-01 | -0.91 | 0.13 |
| Ionocytes | 1.64E-02 | -2.52 | 0.13 | 2.44E-07 | -5.79 | 0.10 |
| Luminal macrophages | 2.59E-02 | 2.30 | 0.15 | 6.99E-02 | 1.84 | 0.15 |
| Mast cells | 3.91E-03 | 3.03 | 0.14 | 6.75E-01 | 0.42 | 0.13 |
| Neutrophils | 3.65E-01 | 0.92 | 0.15 | 2.58E-01 | 1.14 | 0.15 |
| Smooth muscle | 8.84E-03 | 2.74 | 0.13 | 1.39E-02 | 2.52 | 0.13 |
| Submucosal | 5.05E-01 | -0.67 | 0.14 | 8.27E-02 | -1.76 | 0.13 |