**Profiling of Sputum Inflammatory Mediators in Asthma and Chronic Obstructive Pulmonary Disease**

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**Supplementary Table 1**

Upper and lower limit of detection of measured sputum cytokines and chemokines in COPD and asthma patients using MSD and Luminex platforms

|  |  |
| --- | --- |
|  | **Sputum** |
| **pg/ml** | **Lower limit of quantification** | **Upper limit of quantification** |
| CCL2 | 3.20 | 10000 |
| CCL3 | 7.47 | 10000 |
| CCL4 | 3.20 | 10000 |
| CCL5 | 2.18 | 10000 |
| CCL11 | 3.20 | 10000 |
| CCL13 | 5.76 | 10000 |
| CCL17 | 0.47 | 10000 |
| CCL26\* | 16.00 | 10000 |
| IFN-γ\* | 0.30 | 10000 |
| CXCL10 | 3.20 | 10000 |
| CXCL11 | 0.64 | 10000 |
| TNF-α | 1.32 | 10000 |
| TNFRI | 16.00 | 10000 |
| TNFRII | 3.20 | 10000 |
| IL1-β | 0.13 | 10000 |
| IL4\* | 0.30 | 10000 |
| IL5 | 0.13 | 10000 |
| IL6 | 0.13 | 10000 |
| IL6-R | 6.61 | 10000 |
| IL8 | 0.13 | 10000 |
| IL10\* | 1.15 | 10000 |
| IL13\* | 10.88 | 10000 |
| IL17A\* | 0.47 | 10000 |
| GMCSF\* | 1.32 | 10000 |
| VEGF | 16.00 | 10000 |
| MMP1\* | 76.17 | 39000 |
| MMP2\* | 593 | 347500 |
| MMP3\* | 85.83 | 58500 |
| MMP7 | 181 | 372500 |
| MMP8 | 13000 | 13400000 |
| MMP9 | 433 | 8800000 |

\* Below the limit of quantification > 50% of the time, and not analysed further

**Supplementary Table 2**

Sputum mediator concentrations in patients with Asthma and COPD

|  |  |  |  |
| --- | --- | --- | --- |
|  | **COPD** | **Asthma** | **p-value** |
| CCL2  | 454 [295 to 699] | 393 [284 to543] | 0.60 |
| CCL3 | 92.9 [50.7 to 170.2] | 77.1 [48.7 to 122.1] | 0.63 |
| CCL4 | 903 [501 to 1630] | 974 [490 to 1938] | 0.88 |
| CCL5 | 3.8 [2.9 to 5.1] | 4.8 [3.5 to 6.7] | 0.35 |
| CCL11 | 56.0 [31.8 to 98.5] | 66.5 [42.3 to 104.6] | 0.64 |
| CCL13 | 15.7 [9.7 to 25.4] | 16.2 [12.1 to 21.6] | 0.92 |
| CCL17 | 12.1 [6.7 to 21.8] | 16.7 [10.9 to 25.4] | 0.38 |
| CXCL10 | 177 [88 to 356] | 253 [141 to 455] | 0.45 |
| CXCL11 | 9.4 [4.1 to 21.6] | 18.3 [9.5 to 35.3] | 0.23 |
| TNF-α | 9.6 [4.4 to 20.6] | 4.9 [2.8 to 8.4] | 0.16 |
| TNFRI | 2254 [1536 to 3308] | 1095 [708 to 1694] | **0.03** |
| TNFRII | 505 [323 to 790] | 198 [116 to 337] | **0.02** |
| IL1-β | 194 [80 to 475] | 74 [40 to 137] | 0.08 |
| IL5 | 0.8 [0.5 to 1.2] | 1.3 [0.8 to 2.1] | 0.14 |
| IL6 | 351 [188 to 654] | 188 [115 to 308] | 0.13 |
| IL6-R | 204 [142 to 294] | 130 [77 to 221] | 0.23 |
| IL8 | 4709 [3314 to 6690] | 1803 [979 to 3322] | **0.01** |
| VEGF | 1794 [1467 to 2196] | 1445 [1098 to 1902] | 0.27 |
| MMP7\* | 26.8 [18.9 to 37.9] | 15.6 [9.0 to 27.1] | 0.17 |
| MMP8\* | 257 [133 to 495] | 94 [55 to 160] | **0.03** |
| MMP9\* | 1002 [550 to 1828] | 336 [196 to 575] | **0.01** |

Datapresented as geometric mean (95% confidence interval), units in pg/ml unless stated otherwise, **\***ng/mlFigure Legends

Figure 1

Bar chart representing recovery from exogenous spike of mediators to a) sputum plug which is then treated with either D-PBS or DTT and b) D-PBS treated sputum and buffer control samples (n=4). Asterisked analytes considered to be valid assays with a recovery of >80% from sputum compared to buffer. Horizontal and error bars set at mean and standard error of the mean.

Figure 2

Bar chart comparing measured sputum mediators in asthma and COPD patients with eosinophilic airway inflammatory (top), and non eosinophilic airway inflammatory (bottom) phenotypes. Horizontal and error bars set at geometric mean and 95% confidence interval

