

Supplementary methods

Nasal scrape samples were obtained using disposable curettes from the inferior turbinate under direct visualisation (see Appendix). Cells were stored in an RNAprotect cell reagent at -80 °C until processing.

Bulk transcriptomics of nasal tissue samples

RNA was extracted using Qiagen RNeasy mini kits. Samples with RNA integrity number <5 and/or undetectable RNA quantity were excluded from sequencing. RNA poly A sequencing was performed by Novogene using Illumina Novaseq PE150. Gene alignment and quantification was performed by Novogene.

Differentially expressed genes were identified in DESeq2 using paired t-tests on gene count data between post-treatment placebo and prednisolone samples, and pre-mepolizumab to post-mepolizumab (post-placebo) samples. These underwent BH correction. An FDR <0.1 and absolute log2fold change >0.5 was considered significant.

MicroRNA sequencing of plasma samples

Plasma samples from all visits were also tested for microRNA sequencing by Q² solutions® using Illumina TruSeq Small RNA analysis, followed by read alignment and quantification. Precursor and mature miRNA read counts were analysed for differential expression using a linear mixed effects model for the placebo *versus* prednisolone comparison, and paired t-tests comparing pre- to post-mepolizumab in DESeq2. These underwent BH correction. An FDR <0.1 and absolute log2fold change >0.5 was considered significant.

Supplementary results

Prednisolone versus placebo

Nasal tissue transcriptomics

6 participants provided good quality nasal tissue RNA post-prednisolone and post-placebo. 28 genes were significantly downregulated, and 3 genes significantly upregulated (Supplementary figure 5, supplementary table 8). Key genes suppressed by prednisolone included those involved in leucocyte chemotaxis (*CXCL2*, *CXCL3*, *CX3CR1*, *CXCL5*), mast cell tryptase (*TPSB2*), gasdermin D (*GSDMD*), 15-lipoxygenase (*ALOX15*), and matrix metalloproteinase 12 (*MMP12*).

Plasma microRNA

25 participants had paired plasma tested for miRNA. There were 19 significantly differentially expressed precursor miRNAs after prednisolone. However, there were no significantly differentially expressed mature miRNAs (supplementary table 9). Precursor microRNA is the first step in microRNA biogenesis which then undergo several steps before they have mRNA silencing activity¹. Since there was no significant changes in mature miRNAs, the precursor miRNA changes are of doubtful significance.

Before to after mepolizumab

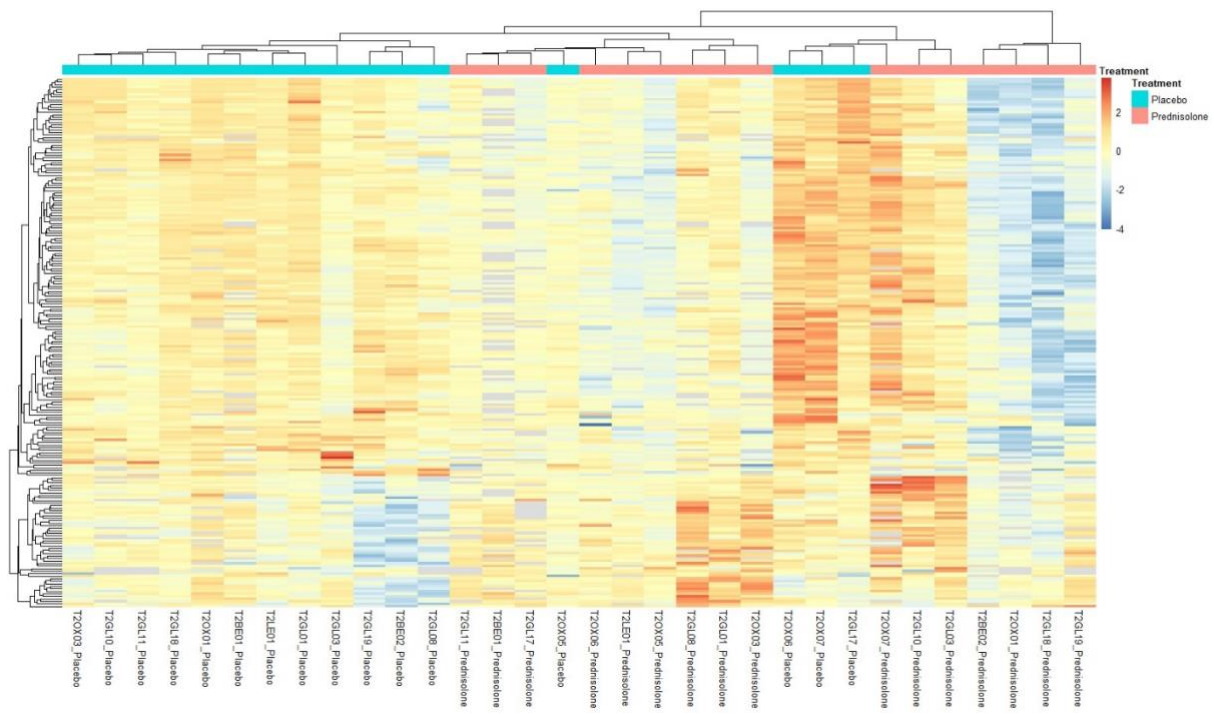
Nasal tissue transcriptomics

5 participants provided good quality nasal tissue RNA before and after mepolizumab treatment. 272 genes were significantly downregulated and 105 significantly upregulated (supplementary table 10 and 11). In pathway analysis downregulated genes were related to ciliary structure and function. Upregulated genes were related to keratinisation, extracellular matrix formation, tight junctions, and IL-4 and IL-13 signalling pathways (supplementary figure 8).

Plasma microRNA

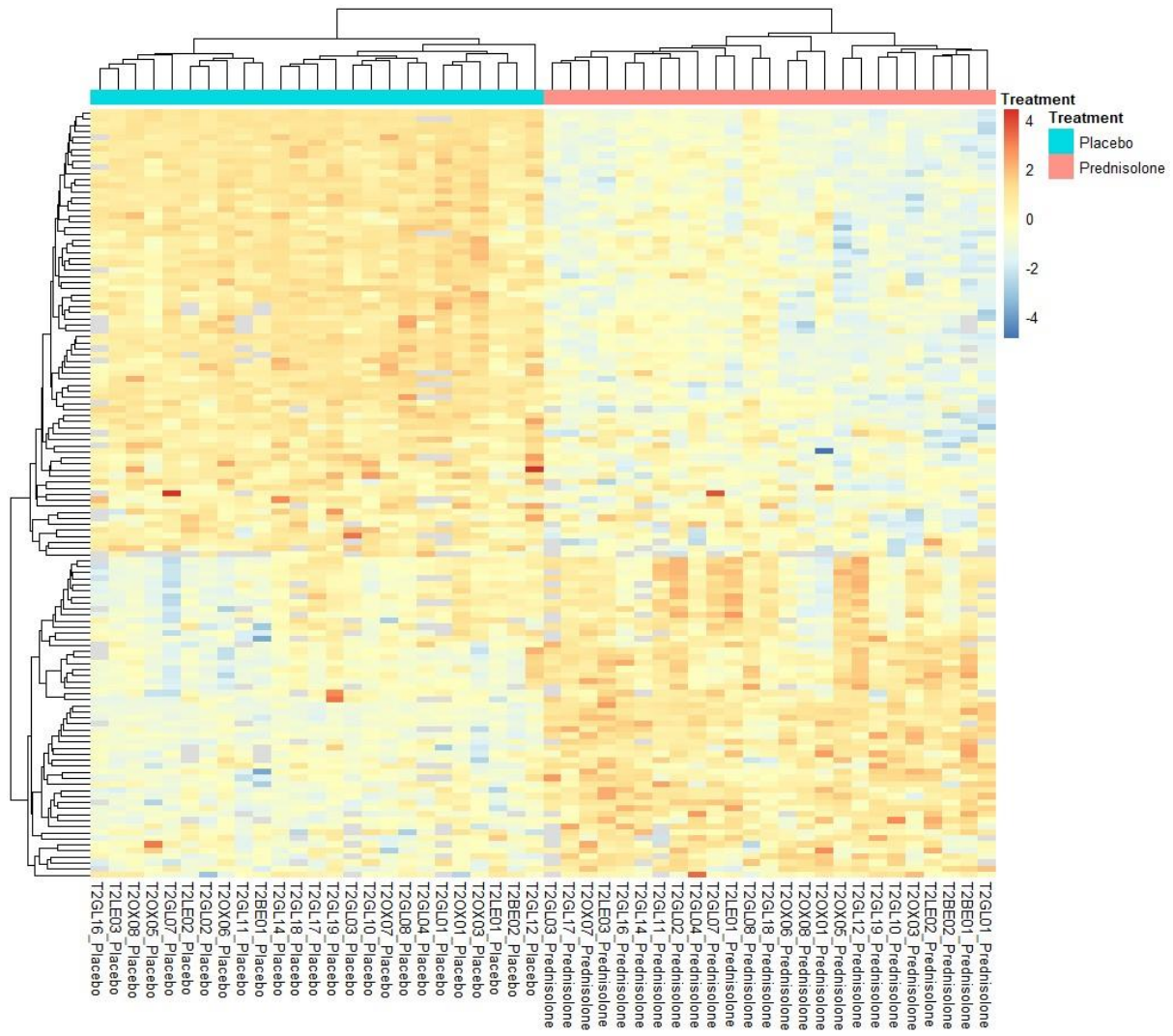
There were no significant differentially expressed precursor or mature miRNAs associated with mepolizumab initiation.

Supplementary figure legends



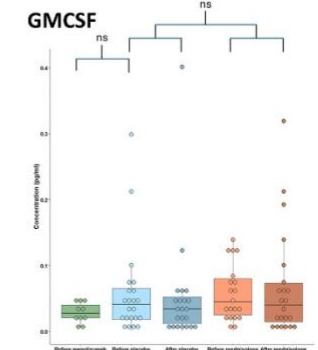
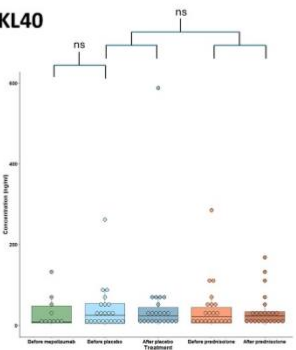
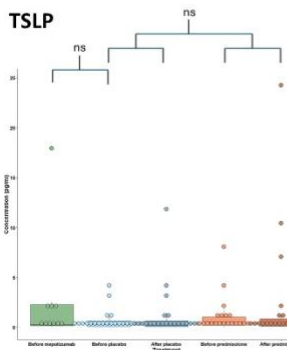
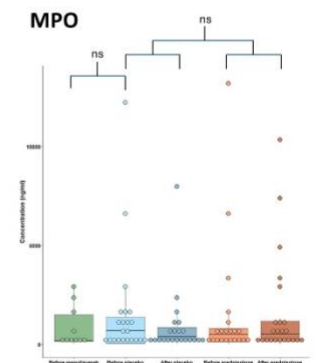
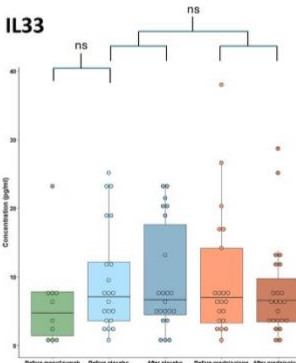
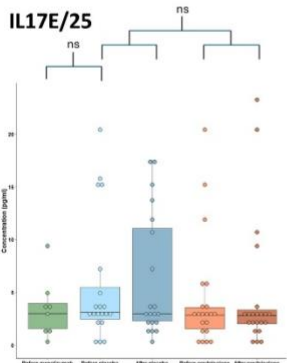
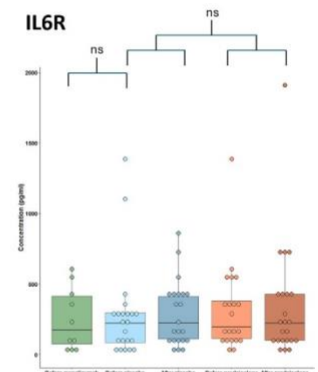
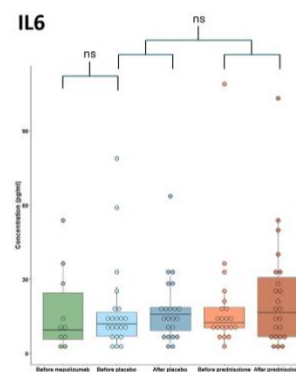
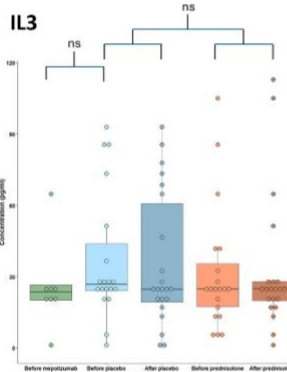
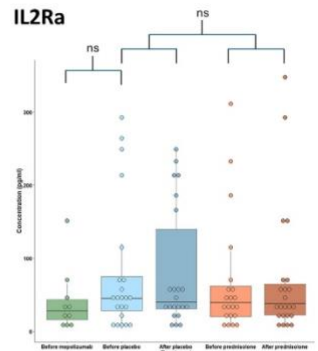
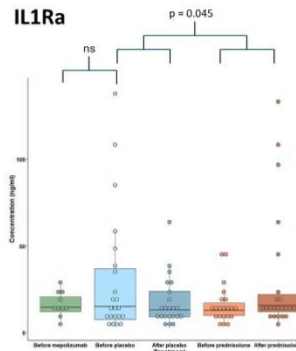
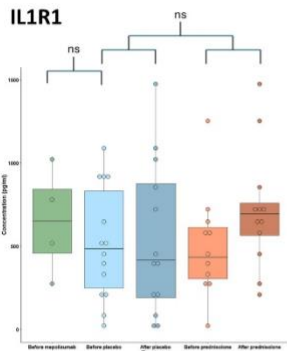
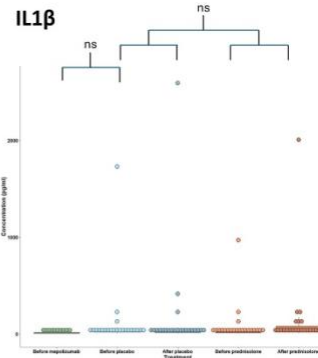
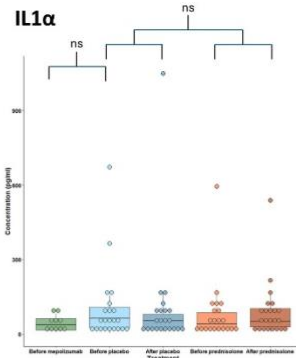
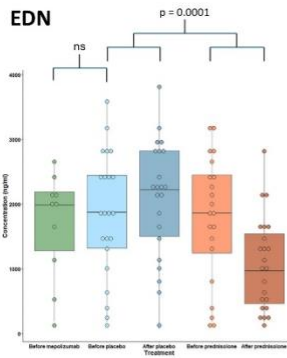
Supplementary figure 1 – The effect of prednisolone and placebo on all sputum Olink proteins with and absolute log2fold change >0.5

Heatmap showing individual change in NPX (n=16 participants) after prednisolone and placebo in sputum proteins with absolute log2fold change >0.5 from the linear mixed effects model. Participants and proteins underwent unsupervised clustering. Top row denotes treatment received, either placebo (blue) or prednisolone (red). Other rows: red denotes increased protein expression, blue reduced expression.



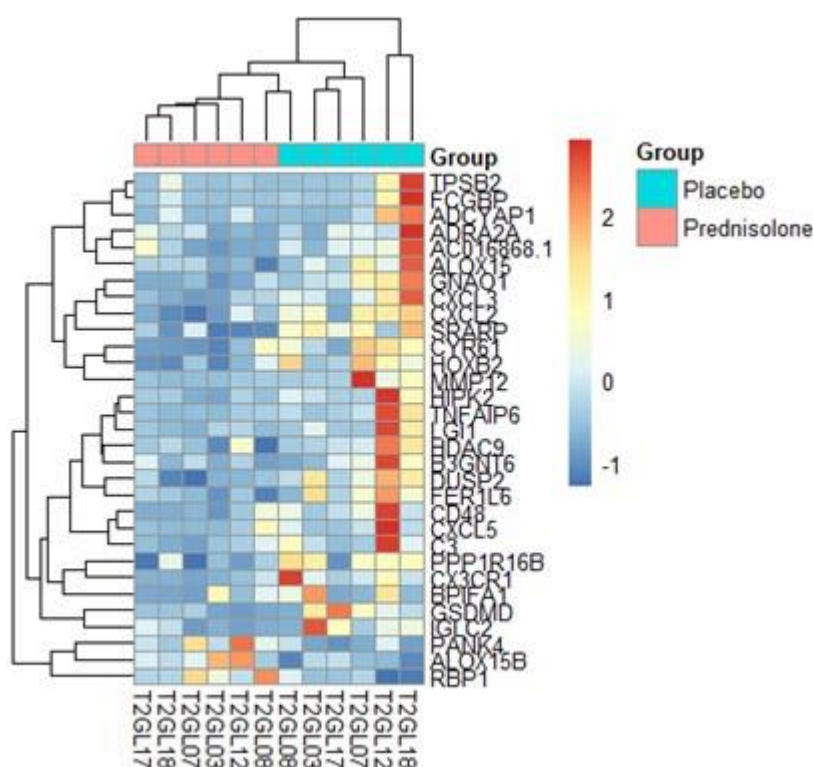
Supplementary figure 2 – The effect of prednisolone and placebo on all plasma Olink proteins with absolute log2fold change >0.5

Heatmap showing individual change in NPX (n=25 participants) after prednisolone and placebo in plasma proteins with absolute log2fold change >0.5 from the linear mixed effects model. Participants and proteins underwent unsupervised clustering. Top row denotes treatment received, either placebo (blue) or prednisolone (red). Other rows: red denotes increased protein expression, blue reduced expression.



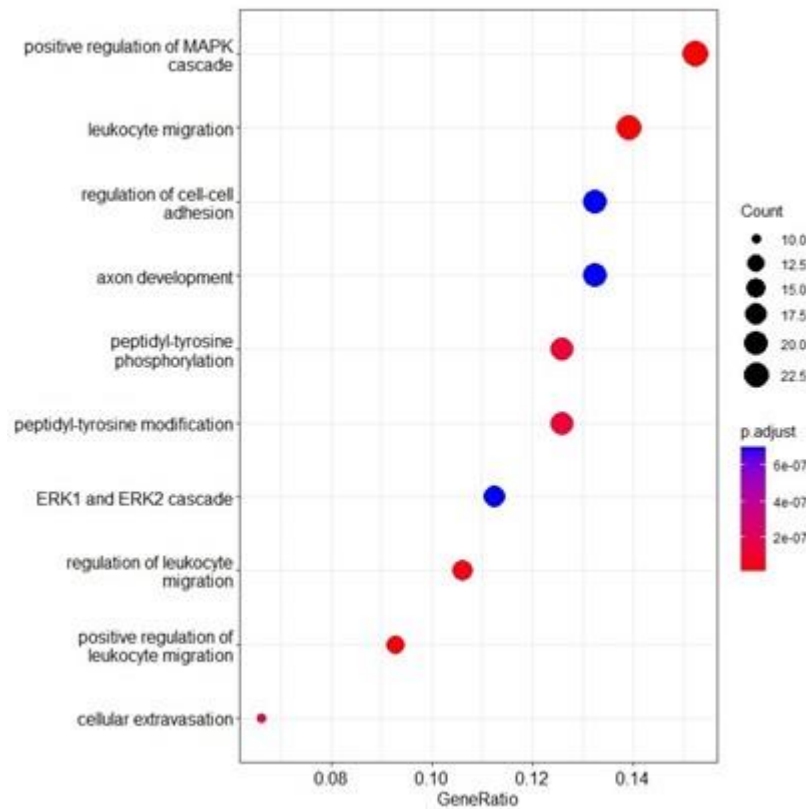
Supplementary figure 3 – The effect of prednisolone on 15 selected proteins in sputum (ELISA)

Summary of the 15 proteins tested by ELISA in sputum samples. This box and whiskers plot shows concentration versus treatment (green, before mepolizumab; light blue, before placebo; dark blue, after placebo; light red, before prednisolone; dark red, after prednisolone). The p value from before to after mepolizumab was determined using paired t-tests, and between prednisolone *versus* placebo using linear mixed effects modelling. No proteins were significantly regulated by mepolizumab. Prednisolone significantly decreased EDN, and significantly increased IL1Ra.



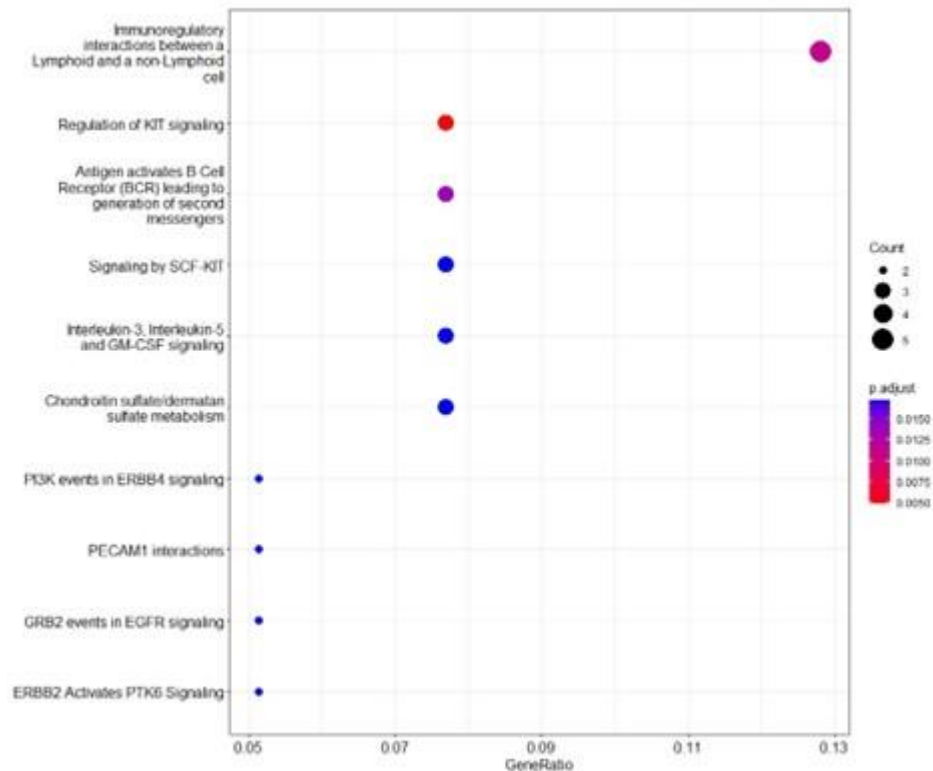
Supplementary figure 4 – Heatmap showing effect of prednisolone and placebo on nasal transcriptome

Heatmap showing post treatment gene expression (n=6 participants) after prednisolone and placebo in the 31 significantly differentially expressed genes. Participants and genes underwent unsupervised clustering. Top row denotes treatment received, either placebo (blue) or prednisolone (red). Other rows: red denotes high gene expression, blue low expression.



Supplementary figure 5 – Pathways analysis of upregulated Olink® sputum proteins after mepolizumab

Top 10 most over-represented Gene Ontology (GO) biological processes for sputum proteins with a trend for upregulation by mepolizumab (FDR<0.15, abs log2fold >0.5). Colour denotes adjusted p value of pathway analysis (FDR<0.05).



Supplementary figure 6 – Pathways analysis of downregulated Olink® plasma proteins after mepolizumab

Top 10 most over-represented Reactome processes for plasma proteins with a trend for downregulation by mepolizumab (FDR<0.15, abs log2fold >0.2). Colour denotes adjusted p value of pathway analysis (FDR<0.05).

Supplementary figure 7 – Differentially expressed nasal genes after mepolizumab

A) volcano plot of differentially expressed genes by mepolizumab in nasal tissue. An absolute log2 fold >0.5 (vertical line) and FDR <0.1 (horizontal line) were considered significant. Blue, downregulated by prednisolone; red, upregulated by prednisolone; black, non-significant. B,C) Top 15 most over-represented Gene Ontology (GO) biological processes significantly downregulated (B) or (C) upregulated by mepolizumab in nasal tissue. Colour denotes adjusted p value (FDR<0.05).

Supplementary tables

Supplementary table 1 – Demographics of patients who had plasma and sputum at all visits in the crossover trial compared with all patients randomised that completed the study

	Plasma patients	Sputum patients	All randomised patients
	(N=25)	(N=16)	(N=27)
Gender			
Female	8 (32.0%)	6 (37.5%)	9 (33.3%)
Male	17 (68.0%)	10 (62.5%)	18 (66.7%)
Age Study Entry			
Mean (SD)	56.4 (12.3)	60.5 (8.46)	56.9 (12.1)
Median [Min, Max]	58.0 [22.0, 74.0]	62.0 [47.0, 74.0]	58.0 [22.0, 74.0]
Ethnicity			
African	1 (4.0%)	1 (6.3%)	1 (3.7%)
Caucasian	24 (96.0%)	15 (93.8%)	26 (96.3%)
Smoking Status			
Ex-smoker	9 (36.0%)	7 (43.8%)	10 (37.0%)
Never smoker	16 (64.0%)	9 (56.3%)	17 (63.0%)
Pack Years			
Mean (SD)	4.26 (9.47)	5.53 (11.4)	4.13 (9.14)
Median [Min, Max]	0 [0, 45.0]	0 [0, 45.0]	0 [0, 45.0]
Age Asthma Diagnosis			
Mean (SD)	31.9 (22.2)	39.3 (21.1)	31.7 (22.1)
Median [Min, Max]	34.0 [0, 66.0]	43.5 [10.0, 66.0]	34.0 [0, 66.0]
BMI_v1			
Mean (SD)	31.4 (5.38)	32.3 (4.81)	31.5 (5.19)
Median [Min, Max]	31.9 [16.8, 40.5]	32.2 [23.8, 40.5]	31.9 [16.8, 40.5]

Missing	1 (4.0%)	1 (6.3%)	1 (3.7%)
Exacerbations 12 months Pre-Mepo			
Mean (SD)	5.08 (2.90)	5.13 (2.80)	5.19 (2.84)
Median [Min, Max]	5.00[0, 12]	5.50 [0, 9]	5.00 [0, 12]
Allergic Rhinitis			
No	21 (84.0%)	14 (87.5%)	22 (81.5%)
Yes	4 (16.0%)	2 (12.5%)	5 (18.5%)
Perennial Rhinitis			
No	11 (44.0%)	7 (43.8%)	13 (48.1%)
Yes	14 (56.0%)	9 (56.3%)	14 (51.9%)
Nasal Polyps			
No	17 (68.0%)	9 (56.3%)	18 (66.7%)
Yes	8 (32.0%)	7 (43.8%)	9 (33.3%)
Eczema			
No	19 (76.0%)	14 (87.5%)	20 (74.1%)
Yes	6 (24.0%)	2 (12.5%)	7 (25.9%)
Depression/Anxiety			
No	20 (80.0%)	12 (75.0%)	22 (81.5%)
Yes	5 (20.0%)	4 (25.0%)	5 (18.5%)
Bronchiectasis			
No	23 (92.0%)	14 (87.5%)	24 (88.9%)
Yes	2 (8.0%)	2 (12.5%)	3 (11.1%)
Reflux			
No	18 (72.0%)	12 (75.0%)	20 (74.1%)
Yes	7 (28.0%)	4 (25.0%)	7 (25.9%)
ICS Dose			
Mean (SD)	2020 (300)	2030 (379)	2010 (288)
Median [Min, Max]	2000 [1000, 3000]	2000 [1000, 3000]	2000 [1000, 3000]
LABA			
Yes	25 (100%)	16 (100%)	27 (100%)
LTRA			
No	9 (36.0%)	5 (31.3%)	9 (33.3%)
Yes	16 (64.0%)	11 (68.8%)	18 (66.7%)
LAMA			
No	5 (20.0%)	3 (18.8%)	6 (22.2%)
Yes	20 (80.0%)	13 (81.3%)	21 (77.8%)
Nebuliser			
No	22 (88.0%)	15 (93.8%)	24 (88.9%)
Yes	3 (12.0%)	1 (6.3%)	3 (11.1%)
Long term antibiotic			
No	22 (88.0%)	13 (81.3%)	23 (85.2%)
Yes	3 (12.0%)	3 (18.8%)	4 (14.8%)

Supplementary table 2 – Clinical measures at randomisation visit (V2) of patients who had plasma and sputum at all visits in the crossover trial compared with all patients randomised that completed the study

	Plasma patients	Sputum patients	All randomised patients
	(N=25)	(N=16)	(N=27)
ACQ5 Score			
N	25	16	27
Mean [SD]	1.09 [1.05]	1.21 [1.14]	1.16 [1.17]
Median [Q1, Q3]	0.600 [0.200, 1.80]	0.600 [0.500, 2.05]	0.600 [0.200, 1.90]
Median [Min, Max]	0.600 [0, 3.60]	0.600 [0, 3.60]	0.600 [0, 4.00]
mAQLQ Score			
N	25	16	27
Mean [SD]	5.41 [1.38]	5.41 [1.45]	5.35 [1.48]
Median [Q1, Q3]	5.73 [4.33, 6.53]	5.67 [4.25, 6.63]	5.73 [4.17, 6.57]
Median [Min, Max]	5.73 [2.67, 7.00]	5.67 [2.67, 7.00]	5.73 [2.27, 7.00]
SGRQ Total			
N	25	16	27
Mean [SD]	29.8 [20.3]	30.8 [22.0]	30.3 [21.9]
Median [Q1, Q3]	30.7 [14.7, 46.2]	33.1 [15.0, 46.3]	30.7 [13.9, 46.3]
Median [Min, Max]	30.7 [0.850, 69.6]	33.1 [0.850, 69.6]	30.7 [0, 70.6]
VAS Overall			
N	23	16	25
Mean [SD]	2.47 [2.28]	2.49 [2.34]	2.47 [2.31]
Median [Q1, Q3]	2.00 [0.450, 4.25]	2.00 [0.475, 4.00]	2.00 [0.300, 4.50]
Median [Min, Max]	2.00 [0, 8.00]	2.00 [0, 8.00]	2.00 [0, 8.00]
Missing	2 (8.0%)		2 (7.4%)
VAS SOB			
N	23	16	25
Mean [SD]	2.58 [2.47]	2.68 [2.58]	2.65 [2.58]
Median [Q1, Q3]	2.00 [0.400, 5.00]	2.00 [0.500, 5.00]	2.00 [0.200, 5.00]
Median [Min, Max]	2.00 [0, 8.00]	2.00 [0, 8.00]	2.00 [0, 8.00]
Missing	2 (8.0%)		2 (7.4%)
VAS Cough			
N	23	16	25
Mean [SD]	2.29 [2.43]	2.54 [2.68]	2.39 [2.56]
Median [Q1, Q3]	1.00 [0.100, 4.25]	1.20 [0.150, 5.00]	1.00 [0, 4.50]
Median [Min, Max]	1.00 [0, 7.60]	1.20 [0, 7.60]	1.00 [0, 7.60]
Missing	2 (8.0%)		2 (7.4%)
Airway oscillometry R5			

N	25	16	27
Mean [SD]	4.01 [1.72]	3.78 [1.58]	4.04 [1.73]
Median [Q1, Q3]	3.53 [2.84, 4.85]	3.47 [2.81, 4.71]	3.53 [2.71, 4.94]
Median [Min, Max]	3.53 [1.48, 7.78]	3.47 [1.48, 7.64]	3.53 [1.48, 7.78]
Airway oscillometry R5-20			
N	25	16	27
Mean [SD]	1.00 [1.09]	0.963 [1.06]	1.02 [1.11]
Median [Q1, Q3]	0.670 [0.304, 1.36]	0.720 [0.335, 1.34]	0.670 [0.282, 1.62]
Median [Min, Max]	0.670 [-0.460, 3.60]	0.720 [-0.460, 3.60]	0.670 [-0.460, 3.60]
AX			
N	25	16	27
Mean [SD]	17.5 [18.0]	19.2 [19.5]	18.3 [18.8]
Median [Q1, Q3]	7.92 [4.88, 30.8]	9.34 [4.70, 32.8]	7.92 [4.89, 31.3]
Median [Min, Max]	7.92 [0.730, 57.5]	9.34 [0.730, 57.5]	7.92 [0.730, 57.5]
Airway oscillometry X5			
N	25	16	27
Mean [SD]	-1.24 [2.48]	-1.08 [2.86]	-1.39 [2.50]
Median [Q1, Q3]	-0.870 [-2.57, -0.480]	-0.840 [-2.59, -0.475]	-1.11 [-2.61, -0.535]
Median [Min, Max]	-0.870 [-6.14, 7.71]	-0.840 [-6.14, 7.71]	-1.11 [-6.14, 7.71]
FEV1 (% predicted)			
N	25	16	27
Mean [SD]	77.9 [18.9]	81.2 [20.7]	77.0 [20.2]
Median [Q1, Q3]	79.0 [67.0, 88.0]	85.0 [70.8, 99.3]	79.0 [66.0, 91.5]
Median [Min, Max]	79.0 [32.0, 107]	85.0 [32.0, 107]	79.0 [32.0, 107]
FVC (% predicted)			
N	25	16	27
Mean [SD]	92.9 [15.6]	96.5 [14.8]	91.8 [16.6]
Median [Q1, Q3]	95.0 [83.0, 104]	101 [8.38, 108]	95.0 [8.15, 104]
Median [Min, Max]	95.0 [52.0, 118]	101 [70.7, 118]	95.0 [52.0, 118]
FEV1/FVC ratio			
N	25	16	27
Mean [SD]	0.662 [0.122]	0.661 [0.121]	0.659 [0.122]
Median [Q1, Q3]	0.670 [0.650, 0.720]	0.670 [0.650, 0.703]	0.670 [0.650, 0.730]
Median [Min, Max]	0.670 [0.280, 0.830]	0.670 [0.280, 0.830]	0.670 [0.280, 0.830]
FEF (% predicted)			
N	18	9	18
Mean [SD]	0.531 [0.245]	0.607 [0.268]	0.531 [0.245]
Median [Q1, Q3]	0.510 [0.383, 0.603]	0.520 [0.490, 0.610]	0.510 [0.383, 0.603]

Median [Min, Max]	0.510 [0.130, 1.17]	0.520 [0.320, 1.17]	0.510 [0.130, 1.17]
Missing	7 (28.0%)	7 (43.8%)	9 (33.3%)
PEF (L/min)			
N	25	16	27
Mean [SD]	457 [141]	451 [143]	446 [145]
Median [Q1, Q3]	425 [343, 550]	435 [337, 572]	424 [341, 537]
Median [Min, Max]	425 [224, 805]	435 [224, 705]	424 [202, 805]
FeNO (ppb)			
N	25	16	27
Mean [SD]	47.2 [32.6]	49.5 [34.0]	44.9 [32.4]
Median [Q1, Q3]	37.0 [26.0, 61.0]	40.0 [26.3, 61.5]	37.0 [23.0, 59.0]
Median [Min, Max]	37.0 [3.00, 134]	40.0 [3.00, 134]	37.0 [3.00, 134]
Blood WCC (10⁶/ml)			
N	25	16	27
Mean [SD]	6.65 [1.48]	6.96 [1.53]	6.51 [1.52]
Median [Q1, Q3]	6.20 [5.70, 7.82]	6.20 [5.85, 8.04]	6.00 [5.55, 7.46]
Median [Min, Max]	6.20 [4.00, 10.2]	6.20 [5.10, 10.2]	6.00 [4.00, 10.2]
Blood Neutrophils (10⁶/ml)			
N	25	16	27
Mean [SD]	3.91 [1.10]	4.01 [1.16]	3.82 [1.11]
Median [Q1, Q3]	3.70 [3.20, 4.40]	3.75 [3.38, 4.18]	3.70 [3.02, 4.25]
Median [Min, Max]	3.70 [2.57, 6.51]	3.75 [2.60, 6.51]	3.70 [2.45, 6.51]
Blood Eosinophils (10⁶/ml)			
N	25	16	27
Mean [SD]	0.08 [0.07]	0.09 [0.08]	0.08 [0.06]
Median [Q1, Q3]	0.06 [0.04, 0.09]	0.06 [0.04, 0.10]	0.06 [0.04, 0.09]
Median [Min, Max]	0.06 [0.02, 0.32]	0.06 [0.02, 0.32]	0.06 [0.02, 0.32]
Sputum Macrophages (% total)			
N	20	15	22
Mean [SD]	24.2 [23.5]	22.5 [21.1]	28.8 [28.0]
Median [Q1, Q3]	16.8 [8.16, 28.7]	15.8 [9.45, 23.4]	19.5 [9.08, 44.1]
Median [Min, Max]	16.8 [1.10, 81.1]	15.8 [1.10, 70.0]	19.5 [1.10, 99.2]
Missing	5 (20.0%)	1 (6.3%)	5 (18.5%)
Sputum Neutrophils (% total)			
N	20	15	22
Mean [SD]	64.3 [28.6]	68.3 [25.6]	60.6 [30.6]
Median [Q1, Q3]	72.4 [46.9, 84.4]	75.8 [58.2, 86.1]	69.8 [37.1, 82.6]
Median [Min, Max]	72.4 [12.8, 98.8]	75.8 [17.5, 97.0]	69.8 [0.500, 98.8]
Missing	5 (20.0%)	1 (6.3%)	5 (18.5%)
Sputum Eosinophils (% total)			
N	20	15	22
Mean [SD]	6.90 [16.6]	6.88 [18.6]	6.29 [15.9]

Median [Q1, Q3]	1.04 [0, 5.92]	0.730 [0.100, 4.88]	0.645 [0, 5.31]
Median [Min, Max]	1.04 [0, 73.5]	0.730 [0, 73.5]	0.645 [0, 73.5]
Missing	5 (20.0%)	1 (6.3%)	5 (18.5%)
Sputum Lymphocytes (% total)			
N	20	15	22
Mean [SD]	0.370 [0.687]	0.476 [0.767]	0.390 [0.669]
Median [Q1, Q3]	0 [0, 0.275]	0 [0, 0.515]	0 [0, 0.325]
Median [Min, Max]	0 [0, 2.17]	0 [0, 2.17]	0 [0, 2.17]
Missing	5 (20.0%)	1 (6.3%)	5 (18.5%)

Supplementary table 3 – Proteins significantly downregulated by prednisolone versus placebo in sputum (Olink®)

	Assay	UniProt	Log2fold change	Adjusted p value
1	IL4	P05112	-3.37	4.81E-03
2	SERPINA9	Q86WD7	-3.18	9.79E-06
3	CCL24	O00175	-2.6	2.47E-04
4	MMP1	P03956	-2.6	1.44E-03
5	HLA-DRA	P01903	-2.46	1.88E-04
6	TIE1	P35590	-2.44	3.70E-04
7	CCL26	Q9Y258	-2.43	5.02E-03
8	CCL22	O00626	-2.43	2.79E-02
9	CCL17	Q92583	-2.37	6.68E-03
10	GDNF	P39905	-2.29	3.96E-03
11	NCAM1	P13591	-2.18	6.60E-04
12	TIMD4	Q96H15	-2.16	8.56E-05
13	CCL13	Q99616	-2.15	6.92E-03
14	NCAN	O14594	-2.11	1.99E-04
15	MCAM	P43121	-2.09	1.93E-04
16	SELE	P16581	-2.07	3.74E-04
17	DOK2	O60496	-2.07	4.36E-03
18	IL5	P05113	-2.06	2.89E-04
19	GP1BA	P07359	-2.04	2.65E-04
20	VCAM1	P19320	-2.03	1.40E-03
21	CPA2	P48052	-2	1.47E-02
22	ARSB	P15848	-1.97	2.63E-03
23	MMP12	P39900	-1.97	6.09E-03
24	TNFRSF8	P28908	-1.95	5.57E-05
25	SPP1	P10451	-1.94	8.87E-04
26	FCER2	P06734	-1.9	5.89E-04
27	OGN	P20774	-1.88	9.49E-05

28	THBS4	P35443	-1.88	1.04E-03
29	LEP	P41159	-1.87	7.13E-04
30	FABP1	P07148	-1.83	1.82E-02
31	CPA1	P15085	-1.82	5.21E-03
32	TNXB	P22105	-1.78	6.98E-04
33	LAP3	P28838	-1.74	4.13E-02
34	TCL1A	P56279	-1.73	4.80E-03
35	KRT18	P05783	-1.72	5.54E-03
36	TREM2	Q9NZC2	-1.7	4.96E-03
37	UMOD	P07911	-1.69	1.70E-03
38	ANGPTL3	Q9Y5C1	-1.69	3.23E-03
39	CD69	Q07108	-1.67	6.28E-03
40	STC2	O76061	-1.65	3.08E-03
41	MB	P02144	-1.63	2.74E-02
42	HAVCR2	Q8TDQ0	-1.61	1.13E-02
43	APEX1	P27695	-1.6	1.94E-02
44	LILRB5	O75023	-1.6	2.03E-03
45	DLK1	P80370	-1.6	2.58E-04
46	FOLR3	P41439	-1.6	6.44E-03
47	CR2	P20023	-1.6	7.73E-03
48	CCL23	P55773	-1.59	1.33E-02
49	FBP1	P09467	-1.57	2.12E-02
50	VSTM2L	Q96N03	-1.57	1.98E-02
51	ENO1	P06733	-1.56	2.98E-04
52	ICAM2	P13598	-1.56	5.49E-03
53	ITIH3	Q06033	-1.56	3.19E-02
54	AARSD1	Q9BTE6	-1.55	5.36E-03
55	ICAM5	Q9UMF0	-1.52	2.12E-02
56	FETUB	Q9UGM5	-1.5	4.42E-02
57	LAIR2	Q6ISS4	-1.49	4.46E-05
58	TNFRSF4	P43489	-1.47	5.71E-04
59	GP6	Q9HCN6	-1.47	2.40E-03
60	VWF	P04275	-1.45	4.92E-02
61	PLPBP	O94903	-1.45	4.60E-02
62	CD209	Q9NNX6	-1.44	3.85E-02
63	PROC	P04070	-1.44	4.28E-02
64	APOM	O95445	-1.42	1.11E-02
65	CASP3	P42574	-1.41	2.81E-02
66	MEPE	Q9NQ76	-1.4	8.37E-04
67	AOC3	Q16853	-1.4	1.38E-02
68	SIGLEC6	O43699	-1.37	1.18E-02
69	SSC5D	A1L4H1	-1.36	3.58E-04
70	GPA33	Q99795	-1.36	4.58E-02
71	COL6A3	P12111	-1.36	6.65E-03

72	IL2RA	P01589	-1.35	1.07E-02
73	CDH5	P33151	-1.33	8.04E-03
74	CA3	P07451	-1.33	3.76E-02
75	IL1RL1	Q01638	-1.32	1.52E-02
76	JAM2	P57087	-1.31	3.38E-03
77	CXCL9	Q07325	-1.31	4.17E-02
78	CRTAC1	Q9NQ79	-1.3	2.57E-02
79	FOLR2	P14207	-1.3	6.18E-03
80	IL20RA	Q9UHF4	-1.29	1.13E-03
81	PPP1R2	P41236	-1.29	1.23E-02
82	PDGFRB	P09619	-1.29	7.97E-04
83	COMP	P49747	-1.28	1.22E-02
84	GUCA2A	Q02747	-1.28	2.89E-02
85	SCARF1	Q14162	-1.27	7.25E-03
86	CTRC	Q99895	-1.24	3.35E-02
87	IL18BP	O95998	-1.23	3.11E-02
88	C2	P06681	-1.21	4.72E-02
89	CPB1	P15086	-1.21	4.98E-03
90	LILRB1	Q8NHL6	-1.18	2.30E-02
91	MARCO	Q9UEW3	-1.18	2.23E-02
92	FST	P19883	-1.18	2.13E-03
93	CNDP1	Q96KN2	-1.17	4.20E-02
94	CD70	P32970	-1.14	6.65E-03
95	KLRB1	Q12918	-1.14	5.83E-03
96	CDHR5	Q9HBB8	-1.14	1.55E-04
97	SPON1	Q9HCB6	-1.13	3.13E-02
98	REG3A	Q06141	-1.13	3.10E-02
99	CLEC14A	Q86T13	-1.12	3.57E-02
100	CLC	Q05315	-1.1	1.65E-02
101	FAM3C	Q92520	-1.1	2.92E-03
102	CD6	P30203	-1.09	2.84E-02
103	WFIKKN2	Q8TEU8	-1.09	4.58E-02
104	FCN2	Q15485	-1.09	2.97E-02
105	IL13	P35225	-1.06	3.17E-02
106	FABP2	P12104	-1.06	3.69E-02
107	VASN	Q6EMK4	-1.06	3.21E-02
108	DPT	Q07507	-1.05	1.01E-02
109	IGFBP1	P08833	-1.04	2.67E-03
110	TSHB	P01222	-1.03	6.02E-03
111	RUVBL1	Q9Y265	-1.02	1.90E-02
112	CCL14	Q16627	-1.02	1.25E-02
113	REG1A	P05451	-1.01	1.05E-02
114	NELL1	Q92832	-0.99	3.48E-02
115	COL4A1	P02462	-0.98	1.74E-02

116	PRDX5	P30044	-0.98	1.70E-03
117	PTGDS	P41222	-0.98	3.59E-03
118	APOH	P02749	-0.98	2.33E-03
119	FABP4	P15090	-0.97	2.95E-04
120	CD160	O95971	-0.97	4.59E-03
121	STC1	P52823	-0.97	3.64E-02
122	XPNPEP2	O43895	-0.95	1.37E-02
123	ACP5	P13686	-0.94	1.69E-02
124	OXT	P01178	-0.93	2.76E-02
125	AXL	P30530	-0.92	1.72E-02
126	CD22	P20273	-0.89	2.88E-02
127	ENPP2	Q13822	-0.88	2.23E-02
128	ADM	P35318	-0.87	3.66E-02
129	PVALB	P20472	-0.86	2.38E-02
130	REG1B	P48304	-0.85	3.52E-02
131	CNTN3	Q9P232	-0.84	3.41E-02
132	PEAR1	Q5VY43	-0.84	1.21E-02
133	SPINK1	P00995	-0.82	2.87E-02
134	NRP1	O14786	-0.79	1.30E-02
135	FASLG	P48023	-0.79	4.23E-02
136	CD300LF	Q8TDQ1	-0.79	4.28E-02
137	CFC1	P0CG37	-0.77	8.10E-03
138	CD27	P26842	-0.76	2.68E-02
139	VMO1	Q7Z5L0	-0.73	4.61E-02
140	COL18A1	P39060	-0.72	4.52E-02
141	CNST	Q6PJW8	-0.71	1.46E-02
142	IL12RB1	P42701	-0.7	9.54E-03
143	CD79B	P40259	-0.69	3.46E-02
144	SCG2	P13521	-0.69	2.83E-02
145	CDH17	Q12864	-0.66	6.90E-03
146	PCDH1	Q08174	-0.65	6.29E-06
147	ICAM1	P05362	-0.65	2.91E-02
148	TNFSF11	O14788	-0.63	8.27E-03
149	CD1C	P29017	-0.62	1.21E-03
150	CTSS	P25774	-0.6	4.85E-02
151	SFTPA2	Q8IWL1	-0.6	1.23E-02
152	CBLN4	Q9NTU7	-0.59	5.34E-03
153	VTCN1	Q7Z7D3	-0.58	3.64E-02
154	LGALS3	P17931	-0.57	3.21E-02
155	CD244	Q9BZW8	-0.56	2.00E-02
156	MIF	P14174	-0.54	3.59E-02
157	FLT4	P35916	-0.52	1.30E-02
158	CTSL	P07711	-0.52	4.39E-02

Supplementary table 4 – Proteins significantly upregulated by prednisolone versus placebo in sputum (Olink®)

	Assay	UniProt	Log2fold change	Adjusted p value
1	CES2	O00748	2.35	2.65E-04
2	EREG	O14944	1.98	4.81E-04
3	DEFB4A_DEFB4B	O15263	1.73	2.56E-02
4	DKK4	Q9UBT3	1.65	1.41E-02
5	GP2	P55259	1.63	3.95E-06
6	CALB1	P05937	1.5	2.40E-02
7	TIMP3	P35625	1.44	1.51E-02
8	FKBP5	Q13451	1.43	3.29E-02
9	XG	P55808	1.4	7.96E-03
10	GFRA1	P56159	1.4	2.40E-03
11	NPPB	P16860	1.4	3.89E-02
12	CRNN	Q9UBG3	1.39	4.73E-03
13	PLAT	P00750	1.38	1.84E-02
14	KLK8	O60259	1.38	1.75E-04
15	PLTP	P55058	1.35	2.48E-02
16	SLC27A4	Q6P1M0	1.33	1.46E-02
17	IL1B	P01584	1.32	2.59E-02
18	IL17C	Q9P0M4	1.28	3.11E-02
19	EPHA2	P29317	1.2	1.88E-02
20	NDRG1	Q92597	1.18	3.52E-03
21	ARID4B	Q4LE39	1.18	4.88E-02
22	DSG3	P32926	1.16	4.00E-05
23	PRSS27	Q9BQR3	1.15	1.75E-02
24	ANXA5	P08758	1.13	2.24E-03
25	CNTN5	O94779	1.12	5.36E-03
26	SNCG	O76070	1.11	2.89E-02
27	ULBP2	Q9BZM5	1.1	1.40E-02
28	WFDC12	Q8WWY7	1.08	5.30E-03
29	CEACAM21	Q3KPI0	1.05	3.74E-02
30	FCAR	P24071	1.03	4.54E-02
31	DSC2	Q02487	1.02	1.88E-03
32	SPINK5	Q9NQ38	0.99	1.37E-03
33	ADGRG2	Q8IZP9	0.97	4.27E-03
34	F2R	P25116	0.95	2.71E-04
35	CA12	O43570	0.92	4.93E-02
36	KLK6	Q92876	0.92	4.97E-04
37	IVD	P26440	0.89	1.82E-04
38	CDSN	Q15517	0.87	3.62E-03
39	LDLR	P01130	0.83	3.69E-02
40	DNER	Q8NFT8	0.81	7.91E-03
41	PSMA1	P25786	0.78	1.73E-02

42	ESM1	Q9NQ30	0.78	5.11E-03
43	CHMP1A	Q9HD42	0.73	3.95E-03
44	HS3ST3B1	Q9Y662	0.72	6.73E-03
45	IL22RA1	Q8N6P7	0.67	8.90E-03
46	DCN	P07585	0.67	2.24E-02
47	PODXL2	Q9NZ53	0.6	2.95E-02
48	ACVRL1	P37023	0.59	3.96E-02
49	CTSV	O60911	0.58	1.05E-02
50	KCNIP4	Q6PIL6	0.54	4.69E-02
51	PSG1	P11464	0.51	1.44E-02

Supplementary table 5 – Proteins significantly downregulated by prednisolone versus placebo in plasma (Olink®)

	Assay	UniProt	Log2fold change	Adjusted p value
1	IL4	P05112	-3.17	1.06E-05
2	IL12A_IL12B	P29459_P29460	-2.24	1.55E-26
3	IL12B	P29460	-2.09	3.88E-26
4	CRH	P06850	-1.46	3.80E-11
5	CCL22	O00626	-1.42	4.18E-21
6	MMP12	P39900	-1.42	5.07E-14
7	CCL19	Q99731	-1.24	2.94E-14
8	TNFSF13B	Q9Y275	-0.94	1.03E-20
9	THBS4	P35443	-0.93	7.59E-08
10	FGF19	O95750	-0.93	1.63E-02
11	GGH	Q92820	-0.91	9.66E-18
12	TNFRSF8	P28908	-0.91	1.67E-16
13	TNFRSF4	P43489	-0.91	3.98E-19
14	CCDC80	Q76M96	-0.9	1.29E-14
15	SIGLEC6	O43699	-0.86	2.87E-21
16	TNFRSF9	Q07011	-0.85	9.89E-14
17	CD83	Q01151	-0.84	4.03E-13
18	IFNG	P01579	-0.84	6.50E-03
19	CLEC4C	Q8WTT0	-0.81	5.93E-06
20	CCL18	P55774	-0.81	2.03E-08
21	CXCL10	P02778	-0.79	3.74E-09
22	CCL17	Q92583	-0.77	4.81E-11
23	PDCD1	Q15116	-0.77	2.35E-21
24	CCL26	Q9Y258	-0.75	4.31E-06
25	CCN3	P48745	-0.74	5.80E-10
26	CD207	Q9UJ71	-0.71	9.97E-09
27	OXT	P01178	-0.69	1.11E-04
28	ADAMTS8	Q9UP79	-0.68	4.01E-10
29	CR2	P20023	-0.66	1.47E-13
30	TPPP3	Q9BW30	-0.66	1.30E-04
31	DLK1	P80370	-0.66	1.06E-12
32	CD28	P10747	-0.66	1.73E-06
33	OMG	P23515	-0.65	8.41E-05
34	OGN	P20774	-0.65	4.84E-10
35	RET	P07949	-0.65	2.20E-13
36	IL6	P05231	-0.65	2.51E-03
37	CDON	Q4KMG0	-0.64	7.29E-12
38	PAEP	P09466	-0.64	3.66E-06
39	FOLR2	P14207	-0.64	3.48E-16
40	SMAD5	Q99717	-0.64	5.05E-10
41	CCL21	O00585	-0.64	9.54E-10

42	CD70	P32970	-0.64	1.23E-10
43	CD300E	Q496F6	-0.63	6.27E-09
44	ITIH3	Q06033	-0.63	2.09E-08
45	CD1C	P29017	-0.62	2.26E-18
46	LAMP3	Q9UQV4	-0.62	6.56E-11
47	MARCO	Q9UEW3	-0.62	3.73E-18
48	DRAXIN	Q8NBI3	-0.62	5.19E-10
49	CD200R1	Q8TD46	-0.62	5.60E-14
50	MMP10	P09238	-0.61	8.08E-06
51	FASLG	P48023	-0.6	1.20E-16
52	GSTA3	Q16772	-0.6	4.09E-03
53	CXCL17	Q6UXB2	-0.59	1.16E-09
54	CDCP1	Q9H5V8	-0.59	5.35E-09
55	CD22	P20273	-0.59	3.33E-17
56	GZMB	P10144	-0.58	2.44E-04
57	MSR1	P21757	-0.57	2.37E-11
58	SERPINA9	Q86WD7	-0.56	1.39E-04
59	CNTN2	Q02246	-0.55	3.55E-11
60	LAG3	P18627	-0.54	1.43E-10
61	IFNL1	Q8IU54	-0.54	8.64E-05
62	KLK14	Q9P0G3	-0.54	1.79E-09
63	LTA	P01374	-0.54	2.19E-10
64	FCRL1	Q96LA6	-0.53	2.29E-14
65	CD79B	P40259	-0.53	3.69E-15
66	TNFRSF13B	O14836	-0.52	1.20E-14
67	ADAM23	O75077	-0.52	1.43E-08
68	CXCL11	O14625	-0.51	2.10E-05
69	DPT	Q07507	-0.51	1.86E-10
70	LRRC25	Q8N386	-0.51	8.36E-09
71	COL1A1	P02452	-0.51	1.98E-07
72	COL6A3	P12111	-0.51	1.39E-08
73	VWC2	Q2TAL6	-0.5	1.71E-07
74	MDGA1	Q8NFP4	-0.5	6.67E-13

Supplementary table 6 – Proteins significantly upregulated by prednisolone versus placebo in plasma (Olink®)

	Assay	UniProt	Log2fold change	Adjusted p value
1	MMP3	P08254	2.29	1.21E-28
2	ZBTB16	Q05516	1.88	5.02E-14
3	IL10	P22301	1.63	1.98E-06
4	GCG	P01275	1.41	3.93E-06
5	PFKFB2	O60825	1.41	7.54E-06
6	AREG	P15514	1.37	8.78E-12
7	FKBP5	Q13451	1.3	1.72E-03

8	GP2	P55259	1.16	3.41E-09
9	MATN3	O15232	1.03	9.59E-15
10	TMPRSS15	P98073	0.98	2.01E-04
11	TNFAIP8	O95379	0.9	4.60E-02
12	SERPINA12	Q8IW75	0.89	5.98E-09
13	AGR3	Q8TD06	0.87	3.16E-03
14	OSM	P13725	0.86	8.28E-05
15	TGFA	P01135	0.85	1.10E-05
16	STAT5B	P51692	0.82	9.60E-04
17	VSIG4	Q9Y279	0.82	6.29E-13
18	IL1RL1	Q01638	0.81	7.26E-13
19	CD177	Q8N6Q3	0.79	9.72E-09
20	CST7	O76096	0.76	7.01E-08
21	RBP2	P50120	0.75	5.11E-04
22	NAMPT	P43490	0.74	3.06E-03
23	MFGE8	Q08431	0.73	2.38E-10
24	PADI2	Q9Y2J8	0.68	8.22E-06
25	IL17C	Q9P0M4	0.68	6.68E-03
26	SLC39A5	Q6ZMH5	0.67	7.27E-11
27	CEACAM8	P31997	0.65	4.45E-04
28	CLPS	P04118	0.64	1.69E-06
29	PIK3AP1	Q6ZUJ8	0.63	6.57E-03
30	IPCEF1	Q8WWN9	0.63	2.71E-02
31	MMP8	P22894	0.63	8.89E-04
32	SCP2	P22307	0.61	1.17E-03
33	PADI4	Q9UM07	0.61	1.09E-02
34	PROK1	P58294	0.6	8.48E-05
35	RGMA	Q96B86	0.6	8.78E-14
36	CES1	P23141	0.6	1.43E-04
37	PM20D1	Q6GTS8	0.59	4.24E-06
38	HCLS1	P14317	0.58	4.08E-03
39	MME	P08473	0.58	1.34E-07
40	MMP9	P14780	0.57	1.44E-05
41	ARG1	P05089	0.55	3.25E-03
42	CCL20	P78556	0.55	4.47E-02
43	CCL15	Q16663	0.55	2.16E-07
44	RASSF2	P50749	0.55	3.90E-02
45	LEP	P41159	0.54	4.29E-04
46	CEP43	O95684	0.54	3.13E-03
47	REN	P00797	0.53	9.54E-07
48	MVK	Q03426	0.53	2.45E-03
49	PROC	P04070	0.53	3.80E-10
50	YTHDF3	Q7Z739	0.52	8.40E-03
51	FEN1	P39748	0.51	2.17E-02

52	BAIAP2	Q9UQB8	0.51	1.57E-03
53	DNAJB1	P25685	0.5	1.15E-02

Supplementary table 7 – The effect of prednisolone versus placebo on sputum proteins (ELISA)

Assay	Change in protein concentration	Log2fold change	Adjusted p value
IL17/25 (pg/ml)	-1.63	-0.40	0.41
IL1 α (pg/ml)	0.658	0.014	0.98
IL1 β (pg/ml)	-24.2	-0.18	0.59
IL2Ra (pg/ml)	-12.5	-0.24	0.57
IL3 (pg/ml)	-1.4	-0.056	0.89
IL33 (pg/ml)	-1.61	-0.25	0.45
IL6 (pg/ml)	3.15	0.23	0.61
IL6R (pg/ml)	43.6	0.18	0.67
MPO (ng/ml)	833	0.89	0.27
YKL40 (ng/ml)	-19.6	-0.57	0.52
IL1Ra (ng/ml)	16.9	1.00	0.045
GMCSF (pg/ml)	0.022	0.46	0.45
TSLP (pg/ml)	1.25	1.30	0.37
EDN (ng/ml)	-1181	-1.04	0.0001
IL1R1 (pg/ml)	222	0.51	0.125

Supplementary table 8 - The effect of prednisolone versus placebo on nasal tissue gene transcription

	Log2fold change	Adjusted p value	Gene
1	-2.93	7.42E-02	CXCL5
2	-2.88	9.25E-02	SRARP
3	-2.69	5.47E-02	TNFAIP6
4	-2.62	8.88E-02	GNAO1
5	-2.55	8.43E-02	IGLC2
6	-2.41	5.37E-02	MMP12
7	-2.38	2.84E-02	ADCYAP1
8	-2.03	2.84E-02	CXCL3
9	-1.96	2.84E-02	HOXB2
10	-1.80	2.84E-02	TPSB2
11	-1.75	5.47E-02	CXCL2
12	-1.73	2.84E-02	LGI1
13	-1.73	9.97E-02	AC016868.1
14	-1.71	2.84E-02	FCGBP
15	-1.67	9.27E-02	CD48
16	-1.64	3.32E-02	ADRA2A
17	-1.54	2.84E-02	B3GNT6
18	-1.45	2.84E-02	PPP1R16B
19	-1.43	3.30E-02	CX3CR1
20	-1.38	5.04E-02	DUSP2
21	-1.37	2.84E-02	GSDMD
22	-1.33	2.84E-02	C3
23	-1.21	9.37E-02	BPIFA1
24	-1.12	9.37E-02	CYR61
25	-0.91	7.29E-02	FER1L6
26	-0.91	5.47E-02	HIPK2
27	-0.90	2.84E-02	ALOX15
28	-0.83	5.37E-02	HDAC9
29	0.71	2.84E-02	RBP1
30	0.71	9.37E-02	ALOX15B
31	1.44	2.84E-02	PANK4

Supplementary table 9 – Precursor miRNA significantly differentially expressed by prednisolone versus placebo

	Pre-cursor miRNA	Difference in normalised gene count	Adjusted p value
1	hsa-mir-6511a-3	-58.8	0.00252
2	hsa-mir-6511a-2	-58.8	0.00252
3	hsa-mir-6511a-1	-58.8	0.00252
4	hsa-mir-6511a-4	-58.8	0.00252
5	hsa-mir-516a-1	111	0.00592
6	hsa-mir-516a-2	111	0.00592
7	hsa-mir-5701-2	-77.5	0.0114
8	hsa-mir-5701-3	-77.5	0.0114
9	hsa-mir-5701-1	-77.5	0.0114
10	hsa-mir-518a-2	-84.4	0.0405
11	hsa-mir-518a-1	-84.4	0.0405
12	hsa-mir-3670-2	24.0	0.0448
13	hsa-mir-3670-4	24.0	0.0448
14	hsa-mir-3670-3	24.0	0.0448
15	hsa-mir-3670-1	24.0	0.0448
16	hsa-mir-4520-1	44.9	0.0687
17	hsa-mir-4520-2	39.9	0.0687
18	hsa-mir-4650-2	-30.9	0.0930
19	hsa-mir-4650-1	-30.9	0.0930

Supplementary table 10 – Nasal tissue genes significantly downregulated by mepolizumab

	Log2fold change	Adjusted p value	Gene
1	-1.38	3.05E-03	CROCC2
2	-1.05	3.05E-03	KCNH3
3	-1.17	3.05E-03	HMCN2
4	-1.17	7.35E-03	BEST4
5	-0.84	7.90E-03	KNDC1
6	-1.03	9.41E-03	HAGHL
7	-0.85	1.32E-02	GRIN3B
8	-0.87	1.36E-02	BAIAP3
9	-1.04	1.41E-02	CFAP65
10	-0.94	1.56E-02	WDR97
11	-0.82	1.56E-02	RHPN1
12	-0.65	1.58E-02	MUC16
13	-1.54	1.58E-02	MAPK15
14	-0.90	1.58E-02	RSPH14
15	-1.70	1.60E-02	LKAAEAR1

16	-1.28	1.60E-02	TGFBR3L
17	-0.97	1.87E-02	TTLL10
18	-0.83	1.87E-02	CD164L2
19	-1.11	1.87E-02	CCDC114
20	-0.99	1.87E-02	SPEF1
21	-1.00	1.87E-02	CDHR4
22	-0.98	1.88E-02	DLEC1
23	-0.97	1.88E-02	DNAI1
24	-0.97	1.90E-02	DNAI2
25	-0.64	1.96E-02	SCGB2A1
26	-1.55	1.97E-02	RNF31
27	-1.01	1.97E-02	ZFHX2
28	-0.99	2.01E-02	LRRC46
29	-1.11	2.04E-02	PPP1R32
30	-0.92	2.09E-02	TEKT2
31	-1.01	2.11E-02	STK33
32	-0.87	2.11E-02	CCDC153
33	-0.82	2.11E-02	NAT14
34	-1.42	2.11E-02	FAM95C
35	-0.90	2.23E-02	RFX2
36	-1.54	2.35E-02	FAM238C
37	-0.91	2.35E-02	UBXN11
38	-1.13	2.38E-02	JPH3
39	-0.73	2.54E-02	WDR90
40	-0.89	2.54E-02	DENND6B
41	-1.01	2.54E-02	CATIP
42	-0.83	2.55E-02	ZNF473
43	-1.15	2.55E-02	LRRC74B
44	-0.96	2.55E-02	LRRC23
45	-0.91	2.60E-02	MAP6
46	-0.72	2.60E-02	HSD11B1L
47	-0.63	2.60E-02	WDR34
48	-0.94	2.77E-02	RNFT2
49	-1.03	2.82E-02	CCDC151
50	-0.73	2.91E-02	DNER
51	-0.81	3.01E-02	ODF3B
52	-1.32	3.04E-02	TNNI3
53	-0.90	3.04E-02	FAM92B
54	-1.27	3.11E-02	SERPINI2
55	-0.97	3.11E-02	TCTEX1D4
56	-0.95	3.11E-02	LRRC71
57	-0.89	3.12E-02	RSPH9
58	-0.89	3.12E-02	CCDC78
59	-0.95	3.27E-02	FNDC11

60	-1.19	3.27E-02	PCSK1N
61	-0.61	3.27E-02	PPP1R16A
62	-0.86	3.28E-02	MORN1
63	-1.15	3.28E-02	HHATL-AS1
64	-1.30	3.28E-02	TTLL6
65	-0.99	3.33E-02	DNAAF1
66	-0.74	3.33E-02	PRUNE2
67	-0.91	3.33E-02	C21orf58
68	-0.98	3.33E-02	C2orf70
69	-1.22	3.33E-02	AC004836.1
70	-1.03	3.33E-02	TMC4
71	-0.71	3.33E-02	ANKMY1
72	-0.94	3.33E-02	PCSK4
73	-1.22	3.33E-02	SYT5
74	-0.54	3.36E-02	SPPL2B
75	-0.94	3.38E-02	CCDC13
76	-0.91	3.41E-02	LINC02166
77	-0.68	3.42E-02	SSBP4
78	-0.86	3.42E-02	TTC21A
79	-1.65	3.42E-02	DOC2A
80	-0.87	3.42E-02	ZMYND10
81	-0.97	3.45E-02	CCDC162P
82	-1.38	3.48E-02	MUC12
83	-0.91	3.50E-02	DNAAF3
84	-1.11	3.50E-02	SSUH2
85	-1.02	3.50E-02	DZIP1L
86	-2.24	3.50E-02	U62317.1
87	-0.75	3.50E-02	ENKD1
88	-1.02	3.53E-02	TMEM52
89	-1.20	3.56E-02	SQSTM1
90	-0.91	3.57E-02	KIF19
91	-0.89	3.57E-02	FAM183A
92	-1.01	3.57E-02	SPAG8
93	-0.96	3.57E-02	DRC1
94	-0.84	3.70E-02	GOLGA2P5
95	-1.04	3.70E-02	AC027281.1
96	-1.01	3.72E-02	CRIP1
97	-0.82	3.76E-02	CCDC17
98	-0.84	3.76E-02	LRRC10B
99	-0.69	3.76E-02	GAS8
100	-0.92	3.76E-02	CFAP73
101	-0.81	3.76E-02	OSCP1
102	-0.89	3.76E-02	TBC1D9B
103	-0.61	3.76E-02	ZNF688

104	-1.01	3.76E-02	AC010754.1
105	-0.85	3.98E-02	DRC3
106	-0.89	4.15E-02	GPR162
107	-0.59	4.18E-02	ZNHIT2
108	-1.00	4.19E-02	CFAP74
109	-0.87	4.23E-02	WDR54
110	-0.88	4.31E-02	TTC25
111	-0.70	4.36E-02	LRRC61
112	-0.91	4.40E-02	C2orf40
113	-0.79	4.48E-02	GIPR
114	-0.88	4.56E-02	C1orf189
115	-1.11	4.69E-02	FABP6
116	-0.76	4.69E-02	C1orf87
117	-0.69	4.69E-02	MAPK8IP1
118	-0.91	4.69E-02	CFAP99
119	-0.85	4.69E-02	CFAP100
120	-0.73	4.72E-02	PSENEN
121	-0.80	4.72E-02	PRR7
122	-0.74	4.72E-02	TPPP3
123	-0.68	4.72E-02	GALNS
124	-0.89	4.72E-02	EFCAB12
125	-0.64	4.72E-02	WHRN
126	-0.69	4.72E-02	UCN3
127	-0.62	4.80E-02	MZF1
128	-0.95	4.86E-02	HLA2
129	-0.98	4.86E-02	NPR2
130	-0.89	4.87E-02	CFAP157
131	-0.87	4.94E-02	LRRC73
132	-1.13	4.95E-02	CCDC180
133	-0.94	4.95E-02	TEKT4
134	-0.97	4.95E-02	LRRC43
135	-1.35	5.02E-02	CLDN9
136	-0.83	5.10E-02	CTXN1
137	-0.64	5.10E-02	CLDN3
138	-0.94	5.12E-02	GAS2L2
139	-0.81	5.13E-02	MORN5
140	-0.99	5.13E-02	TTC16
141	-2.13	5.13E-02	KNCN
142	-0.81	5.13E-02	EFCAB1
143	-1.42	5.13E-02	AL357093.1
144	-1.39	5.19E-02	AQP10
145	-0.94	5.32E-02	C4orf47
146	-0.79	5.37E-02	LDLRAD1
147	-0.87	5.43E-02	CFAP46

148	-0.89	5.51E-02	WDR38
149	-0.69	5.60E-02	MAPRE3
150	-0.78	5.80E-02	CYP2F1
151	-0.79	5.80E-02	DNAH2
152	-0.97	5.86E-02	Mar-10
153	-1.04	5.86E-02	SLC7A2
154	-0.84	5.86E-02	C1orf228
155	-0.87	5.86E-02	CDHR3
156	-0.87	5.86E-02	DNAH6
157	-0.99	5.86E-02	AL121899.1
158	-1.47	5.89E-02	VWA3A
159	-0.77	5.89E-02	AK8
160	-0.81	5.91E-02	CROCC
161	-0.83	5.93E-02	RSPH1
162	-0.85	5.98E-02	CFAP45
163	-0.84	5.98E-02	MAP1A
164	-0.63	5.98E-02	CCDC24
165	-0.85	5.98E-02	C20orf85
166	-0.83	6.04E-02	AL031283.1
167	-0.75	6.06E-02	CCDC96
168	-0.83	6.06E-02	IQCD
169	-1.09	6.19E-02	AC073439.1
170	-0.86	6.22E-02	RAB36
171	-0.75	6.25E-02	SRGAP3-AS2
172	-0.77	6.28E-02	C9orf24
173	-1.15	6.40E-02	AC104809.1
174	-0.83	6.40E-02	IQCA1
175	-0.82	6.43E-02	CCDC74A
176	-0.78	6.43E-02	CCDC33
177	-0.56	6.43E-02	RPRM
178	-1.63	6.54E-02	CRISP2
179	-0.50	6.56E-02	LRRC45
180	-0.83	6.57E-02	C1orf194
181	-0.82	6.65E-02	CFAP54
182	-0.59	6.69E-02	TMEM234
183	-1.05	6.76E-02	AC113349.1
184	-0.86	6.76E-02	TUBA4B
185	-0.83	6.78E-02	CFAP52
186	-1.12	6.81E-02	PTCH2
187	-0.82	6.85E-02	RIIAD1
188	-0.84	6.88E-02	C11orf88
189	-0.63	6.88E-02	AC073335.2
190	-0.72	7.06E-02	CD38
191	-1.28	7.06E-02	MAT1A

192	-0.71	7.06E-02	IQC�
193	-0.58	7.06E-02	COPRS
194	-0.69	7.22E-02	WDR66
195	-0.80	7.27E-02	SPEF2
196	-1.61	7.27E-02	ARSEP1
197	-1.02	7.30E-02	ALG1L8P
198	-0.86	7.36E-02	SCARF2
199	-0.84	7.36E-02	NHLRC4
200	-0.87	7.41E-02	NME9
201	-0.92	7.44E-02	C11orf16
202	-0.77	7.56E-02	CABCOCO1
203	-0.77	7.60E-02	KLHDC9
204	-0.82	7.62E-02	MAATS1
205	-0.90	7.67E-02	RBM24
206	-0.91	7.75E-02	C1orf158
207	-0.97	7.83E-02	UMODL1-AS1
208	-0.53	7.83E-02	RAD9A
209	-0.52	7.83E-02	ZDHHC1
210	-1.40	7.83E-02	Mar-04
211	-0.54	7.93E-02	ADPRHL2
212	-0.68	7.93E-02	TUBB4B
213	-0.84	8.16E-02	PRR29
214	-1.04	8.20E-02	CCDC184
215	-0.64	8.21E-02	METTL27
216	-0.79	8.24E-02	FANK1
217	-1.61	8.30E-02	FAM120B
218	-0.95	8.30E-02	FAM227A
219	-0.51	8.42E-02	MGAT3
220	-0.83	8.47E-02	CCDC30
221	-0.75	8.47E-02	LRRC27
222	-0.77	8.47E-02	C9orf116
223	-1.21	8.47E-02	DCAF11
224	-0.63	8.47E-02	C21orf59
225	-0.74	8.56E-02	NPHP1
226	-0.80	8.56E-02	DNAH12
227	-0.57	8.57E-02	P4HTM
228	-0.78	8.59E-02	DNAH9
229	-1.05	8.72E-02	KLHDC7B
230	-0.79	8.86E-02	TUBA1A
231	-0.54	8.87E-02	CKB
232	-0.86	8.88E-02	CFAP161
233	-0.59	8.90E-02	ANKK1
234	-0.88	8.93E-02	TSPAN19
235	-0.79	8.93E-02	CCDC157

236	-1.17	8.94E-02	AC116562.3
237	-0.78	8.95E-02	TSNAXIP1
238	-0.70	9.02E-02	PPOX
239	-0.73	9.02E-02	PACRG
240	-1.07	9.02E-02	ZNF295-AS1
241	-0.51	9.02E-02	MED25
242	-0.63	9.10E-02	ANKRD54
243	-0.66	9.14E-02	WDR19
244	-0.82	9.24E-02	TOGARAM2
245	-1.05	9.24E-02	LRRIQ1
246	-0.83	9.24E-02	CAPS
247	-0.62	9.24E-02	ORAI2
248	-0.79	9.26E-02	MS4A8
249	-0.89	9.27E-02	PTPRT
250	-1.01	9.27E-02	AL645924.1
251	-0.78	9.30E-02	CAPSL
252	-0.66	9.34E-02	TCTN1
253	-0.82	9.35E-02	NEK5
254	-0.83	9.54E-02	FOXJ1
255	-0.92	9.63E-02	TTLL9
256	-0.64	9.63E-02	NPM2
257	-0.64	9.64E-02	CETN2
258	-0.70	9.64E-02	CFAP57
259	-0.69	9.64E-02	POMT2
260	-0.81	9.64E-02	CCDC189
261	-0.80	9.64E-02	EFHC1
262	-0.75	9.64E-02	RIBC1
263	-0.67	9.64E-02	CBY1
264	-0.79	9.69E-02	C5orf49
265	-0.67	9.80E-02	ICA1L
266	-0.80	9.80E-02	VPS28
267	-0.59	9.80E-02	FBXW9
268	-0.97	9.80E-02	ENO4
269	-1.14	9.80E-02	AL353747.3
270	-0.94	9.80E-02	C22orf15
271	-0.66	9.80E-02	DPCD
272	-0.78	9.80E-02	KIF24

Supplementary table 11 - Nasal tissue genes significantly upregulated by mepolizumab

	Log2fold change	Adjusted p value	Gene
1	4.88	2.00E-02	KRT14
2	4.14	3.00E-02	LIPK
3	3.85	1.00E-02	KRT16P6
4	3.84	1.00E-02	LIPG
5	3.76	7.00E-02	KRT16
6	3.7	4.00E-02	SPRR1B
7	3.54	0.00E+00	LUM
8	3.2	4.00E-02	KRT6A
9	2.97	3.00E-02	CXCL5
10	2.96	2.00E-02	NES
11	2.87	3.00E-02	LPL
12	2.84	1.00E-02	PDGFRB
13	2.55	0.00E+00	COL5A3
14	2.52	4.00E-02	KLK14
15	2.51	2.00E-02	NNMT
16	2.46	0.00E+00	EREG
17	2.43	1.00E-02	TGM1
18	2.4	1.00E-02	COL6A3
19	2.39	3.00E-02	SFRP2
20	2.33	2.00E-02	HCAR3
21	2.11	4.00E-02	COL1A2
22	2.06	0.00E+00	SPARC
23	2.01	7.00E-02	SLC25A24
24	1.98	4.00E-02	OLR1
25	1.9	9.00E-02	MMP19
26	1.89	6.00E-02	S100A12
27	1.83	1.00E-02	FOSL1
28	1.81	3.00E-02	DCN
29	1.77	0.00E+00	IL19
30	1.77	3.00E-02	GJB6
31	1.76	8.00E-02	DUSP9
32	1.75	4.00E-02	TINF2
33	1.74	6.00E-02	S100A2
34	1.74	4.00E-02	MCM10
35	1.73	0.00E+00	GJB2
36	1.73	7.00E-02	DOC2B
37	1.66	4.00E-02	PTHLH
38	1.64	7.00E-02	ELOVL4
39	1.62	0.00E+00	MYBL2
40	1.59	5.00E-02	KRT16P2
41	1.56	0.00E+00	RRM2

42	1.55	2.00E-02	MRC1
43	1.54	0.00E+00	SLC7A5
44	1.53	6.00E-02	GOLGA7B
45	1.53	1.00E-02	FOSB
46	1.5	0.00E+00	KRT17
47	1.47	3.00E-02	SERPINB7
48	1.47	0.00E+00	EGR1
49	1.44	6.00E-02	VSIG4
50	1.43	6.00E-02	EXO1
51	1.39	4.00E-02	COL6A2
52	1.38	2.00E-02	HBEGF
53	1.38	2.00E-02	C5AR2
54	1.37	0.00E+00	THBD
55	1.28	4.00E-02	ADAMTSL4
56	1.26	5.00E-02	CEMIP
57	1.22	5.00E-02	CDC45
58	1.21	4.00E-02	PBK
59	1.2	5.00E-02	IL1R2
60	1.2	5.00E-02	LZTS1
61	1.18	9.00E-02	ANGPTL4
62	1.18	2.00E-02	CEP55
63	1.15	6.00E-02	TIMP3
64	1.13	4.00E-02	CDC6
65	1.1	1.00E-01	FAM126A
66	1.09	9.00E-02	BIRC5
67	1.09	8.00E-02	SOCS3
68	1.06	8.00E-02	AMOTL1
69	1.05	4.00E-02	ADM
70	1.05	8.00E-02	ABCA12
71	1.01	8.00E-02	MMP2
72	0.98	5.00E-02	FSCN1
73	0.95	9.00E-02	TPX2
74	0.95	1.00E-02	LGALS7
75	0.93	5.00E-02	MXD1
76	0.92	9.00E-02	C1S
77	0.9	5.00E-02	GIN52
78	0.89	1.00E-02	PLAU
79	0.88	1.00E-02	FLNA
80	0.88	3.00E-02	DUSP7
81	0.88	6.00E-02	AKR1B10
82	0.88	1.00E-02	SERPINB4
83	0.86	8.00E-02	CALD1
84	0.85	9.00E-02	NDRG1
85	0.84	1.00E-01	SAPCD2

86	0.81	2.00E-02	JUNB
87	0.8	6.00E-02	TK1
88	0.78	6.00E-02	FERMT1
89	0.76	2.00E-02	MCM6
90	0.76	4.00E-02	MDFI
91	0.76	6.00E-02	TCN1
92	0.75	4.00E-02	OSMR
93	0.74	7.00E-02	TINAGL1
94	0.71	5.00E-02	LDHA
95	0.7	6.00E-02	CD44
96	0.69	3.00E-02	ZFP36
97	0.69	4.00E-02	DAB2
98	0.68	3.00E-02	STMN1
99	0.68	5.00E-02	PTGS2
100	0.67	3.00E-02	NFKBIA
101	0.66	7.00E-02	TPM4
102	0.61	8.00E-02	FAM83D
103	0.58	5.00E-02	SIRPA
104	0.57	6.00E-02	MSN
105	0.53	7.00E-02	AKR1C2

Supplementary table 12 – Spearman rank correlation coefficients comparing the effect of prednisolone between sputum and plasma on 30 proteins important in asthma

Assay	Spearman correlation coefficient	P value
IL4	-0.43	0.10
IL5	0.21	0.43
IL13	0.36	0.17
IL33	-0.03	0.93
TSLP	0.00	0.99
CCL24	0.04	0.86
CCL26	0.58	0.01
CCL17	0.27	0.27
CCL19	0.19	0.44
CCL22	-0.08	0.75
FCER2	-0.01	0.97
IL1RL1	0.35	0.16
OX40R	0.35	0.15
SELE	0.59	0.01
ICAM1	0.08	0.73
VCAM1	0.28	0.27
TIE1	0.16	0.51
PTGDS	0.22	0.37
HPGDS	0.57	0.03
TPSAB1	-0.27	0.26
MMP12	-0.19	0.42
MMP1	0.34	0.16
GDNF	0.20	0.47
IL1 β	-0.09	0.73
RANKL	-0.10	0.69
CD30	0.50	0.03
IFNG	-0.11	0.68
CXCL10	0.32	0.19
IL6	0.22	0.37
AREG	0.51	0.03

Supplementary table 13 – Intraclass correlation coefficients for sputum and plasma proteins

Intraclass correlation coefficients for sputum and plasma				
Sputum Assay	Unadjusted ICC		Plasma Assay	Unadjusted ICC
KLK12	0.93		FOLR3	1.00
PTH1R	0.90		PNLIPRP2	0.99
GFOD2	0.88		XPNPEP2	0.99
CD177	0.87		CHIT1	0.99
HPGDS	0.87		IL18RAP	0.99
IL18RAP	0.85		SIGLEC5	0.99
GBP4	0.85		PM20D1	0.99
CD200R1	0.84		LILRB5	0.99
SLITRK2	0.84		TDGF1	0.99
RAB6B	0.84		CD33	0.99
DKK1	0.83		KLK1	0.99
GSAP	0.83		STC1	0.98
PTX3	0.83		FCRL2	0.98
LEFTY2	0.82		TPSAB1	0.98
TFF2	0.82		SIRPA	0.98
CLEC4C	0.82		TLR3	0.98
ST3GAL1	0.82		SIGLEC6	0.98
CHIT1	0.82		KLK4	0.98
KLK13	0.81		KLK12	0.98
CGA	0.81		CCL24	0.98
CD33	0.81		SCGB3A2	0.98
CCL4	0.81		ADGRG1	0.98
SIRPA	0.81		CCL26	0.97
CEACAM21	0.81		ARNT	0.97
HDGF	0.80		MDGA1	0.97
ITGAM	0.80		KLRD1	0.97
FOLR3	0.80		PSG1	0.97
ERP44	0.79		FUCA1	0.97
LILRB5	0.79		IL12A_IL12B	0.97
CDHR2	0.79		ACP6	0.97
LBR	0.79		SSC4D	0.97
CEACAM8	0.79		IL11	0.97
CXCL11	0.79		SIGLEC9	0.97
ITGB2	0.79		GGT1	0.97
C1QA	0.79		PSPN	0.97
KLK6	0.79		DKKL1	0.97
FCAR	0.79		NPTX1	0.96
DUOX2	0.79		NT5E	0.96
TNFRSF13B	0.78		TFF2	0.96
S100A12	0.78		CCL17	0.96

HSP90B1	0.78		IL17F	0.96
CLC	0.78		CRTAM	0.96
PSG1	0.78		MEP1B	0.96
CD40	0.78		CEACAM21	0.96
ATP5IF1	0.78		CBLIF	0.96
MAD1L1	0.78		DPP10	0.96
PREB	0.77		PTGDS	0.96
TNFRSF4	0.77		GAL	0.96
STK24	0.77		CD163	0.96
HCLS1	0.77		IL5RA	0.96
CLEC1B	0.77		CD300LF	0.96
LY6D	0.77		CD79B	0.96
OSM	0.77		CRISP2	0.96
SRP14	0.77		KIR3DL1	0.96
CD69	0.77		TACSTD2	0.96
TNFRSF11B	0.77		IL1RAP	0.96
ACAN	0.77		CALCA	0.96
GP2	0.77		SIGLEC15	0.96
FYB1	0.77		CD22	0.96
F7	0.77		FCGR3B	0.96
TNFRSF9	0.77		MMP1	0.96
SIGLEC9	0.77		CD6	0.96
CCL24	0.77		ENPP7	0.96
FMNL1	0.77		CDHR2	0.96
S100P	0.77		CD177	0.96
RNF41	0.77		DPEP1	0.96
CORO1A	0.77		CR2	0.96
GBP2	0.76		GP2	0.96
SIGLEC5	0.76		AFP	0.96
FKBP5	0.76		FCRL5	0.96
SSC4D	0.76		FCRL6	0.96
COMP	0.76		LY9	0.96
CTSF	0.76		NA	0.95
VCAN	0.76		PQBP1	0.95
ITGA5	0.76		CCL4	0.95
DPEP2	0.76		PDGFRB	0.95
PKLR	0.76		DEFB4A_DEFB4B	0.95
SFTPA1	0.76		CA6	0.95
CSF2RA	0.76		MEGF10	0.95
CD4	0.76		IL32	0.95
DIABLO	0.76		MME	0.95
BTN3A2	0.76		EDA2R	0.95
FGFBP1	0.76		CD200R1	0.95
CD6	0.76		ENPP2	0.95

SFTPA2	0.76		DCTN6	0.95
CST7	0.76		MSR1	0.95
SIRPB1	0.76		SELE	0.95
AZU1	0.76		KLRB1	0.95
ICAM3	0.76		LAIR2	0.95
CCL20	0.76		HPGDS	0.95
MMP3	0.76		IL12B	0.95
HGF	0.76		HAVCR1	0.95
TACC3	0.75		BST2	0.95
DNAJA2	0.75		NFASC	0.95
SERPINB8	0.75		FCRL1	0.95
NA	0.75		PILRA	0.94
PECAM1	0.75		FCRLB	0.94
ADAM8	0.75		OBP2B	0.94
SERPINB6	0.75		MIA	0.94
CCL2	0.75		CDCP1	0.94
LGALS9	0.75		WFIKKN2	0.94
IGF1R	0.75		LILRB1	0.94
TCL1A	0.75		ITGB7	0.94
SIGLEC7	0.75		CSF2RA	0.94
AREG	0.75		ENPP5	0.94
CLEC11A	0.75		SNCG	0.94
CXCL8	0.75		ICAM4	0.94
DBNL	0.75		PILRB	0.94
TMSB10	0.75		CCN4	0.94
FEN1	0.75		CDH17	0.94
ITGAV	0.75		ACE2	0.94
SIGLEC10	0.75		CNTN5	0.94
KLRB1	0.75		EBI3_IL27	0.94
TNFSF13B	0.74		ROBO1	0.94
TNFRSF10B	0.74		TNFRSF13B	0.94
CXCL10	0.74		CPM	0.94
TFRC	0.74		KITLG	0.94
CLEC6A	0.74		LYPD3	0.94
GNLY	0.74		LRRC25	0.94
PNLIPRP2	0.74		AGRN	0.94
DCTN1	0.74		VEGFA	0.94
LILRB2	0.74		MMP3	0.94
SPINK5	0.74		ADGRB3	0.94
NPTX1	0.74		CLUL1	0.94
S100A4	0.74		IL18R1	0.94
KLK1	0.74		MSMB	0.94
PAG1	0.74		ICAM3	0.93
LILRA2	0.74		SEMA7A	0.93

NA	0.74		CDH6	0.93
THY1	0.74		LHB	0.93
CXCL8	0.74		FCN2	0.93
SIGLEC1	0.74		FUT8	0.93
TNFRSF10C	0.74		CCL8	0.93
BST2	0.74		MZB1	0.93
TNC	0.74		PON2	0.93
CRISP2	0.74		PADI2	0.93
CD302	0.74		COL9A1	0.93
FIS1	0.74		PLXNB2	0.93
PROC	0.74		SIRPB1	0.93
CAPG	0.74		IL1RL1	0.93
PLIN3	0.73		NELL2	0.93
CHMP1A	0.73		IL1R1	0.93
LAMP2	0.73		KIT	0.93
CLEC4A	0.73		CTSV	0.93
NA	0.73		GZMA	0.93
ITGB1	0.73		LILRB2	0.93
MME	0.73		CXCL5	0.93
CCL16	0.73		SLITRK2	0.93
SERPINE1	0.73		IGSF3	0.93
NAMPT	0.73		CLEC4C	0.93
SKAP2	0.73		ALPP	0.93
FRZB	0.73		ADA2	0.93
IL2RA	0.73		GDF15	0.93
MSMB	0.73		TNFRSF10C	0.93
PLAU	0.73		FCGR2A	0.93
ITIH3	0.73		SLAMF7	0.93
ENTPD6	0.73		CD244	0.93
MAP2K6	0.73		SFTPD	0.93
EDA2R	0.73		ST3GAL1	0.93
MANF	0.73		BST1	0.93
RWDD1	0.73		LGALS9	0.93
LPCAT2	0.73		KIR2DL3	0.93
FUS	0.72		LYPD1	0.93
FAS	0.72		ESM1	0.93
SELE	0.72		ERBB2	0.93
OLR1	0.72		CNDP1	0.93
IGFBP6	0.72		CA14	0.92
METAP2	0.72		PDCD1LG2	0.92
THBS2	0.72		SPINK4	0.92
LRPAP1	0.72		IL18	0.92
MATN3	0.72		CCL13	0.92
VWA1	0.72		LTBP2	0.92

FADD	0.72		LILRA2	0.92
KLK8	0.72		CDHR5	0.92
LTBP2	0.72		CNTN3	0.92
LAMP3	0.72		CD48	0.92
CD48	0.72		TREM2	0.92
MUC13	0.72		ACTA2	0.92
CCL22	0.72		MICB_MICA	0.92
CCL23	0.72		RGMA	0.92
CXCL9	0.72		IL6R	0.92
STC1	0.72		AOC3	0.92
COL6A3	0.72		IFNLR1	0.92
TRIAP1	0.72		IL34	0.92
CCN1	0.72		RET	0.92
CD27	0.72		FLT4	0.92
CDH1	0.72		CST7	0.92
CD74	0.72		IFNGR2	0.92
TYMP	0.72		CRH	0.92
EPHA1	0.72		CXADR	0.92
CD14	0.72		NA	0.92
CD5	0.72		CCL19	0.92
COL4A1	0.72		CD300C	0.92
DAG1	0.72		COL1A1	0.92
HMOX1	0.72		PCDH17	0.92
OBP2B	0.72		CD160	0.92
CES1	0.72		AMBP	0.92
PPP3R1	0.72		CCL11	0.92
FETUB	0.72		FABP9	0.92
ARG1	0.72		CD276	0.92
CLEC4D	0.72		VCAM1	0.92
IGF2R	0.72		DNER	0.92
SULT1A1	0.72		FASLG	0.92
LILRA5	0.72		ITM2A	0.92
PSMD9	0.72		HBEGF	0.92
DLK1	0.72		LGALS3	0.91
NADK	0.72		CEACAM5	0.91
PRKAR1A	0.72		CNTN2	0.91
CD83	0.72		SOST	0.91
CDNF	0.72		SPINT1	0.91
VSIR	0.72		OXT	0.91
LGALS1	0.71		NA	0.91
HNMT	0.71		PLTP	0.91
LRRC25	0.71		LTA	0.91
BLVRB	0.71		ENTPD2	0.91
NID1	0.71		CRTAC1	0.91

PVALB	0.71		NCR1	0.91
TNFRSF12A	0.71		DPP4	0.91
TNFRSF8	0.71		CD207	0.91
RARRES1	0.71		BPIFB1	0.91
MSR1	0.71		CCL25	0.91
LACTB2	0.71		PDCD6	0.91
CLEC7A	0.71		MUC13	0.91
PLA2G7	0.71		CNTNAP2	0.91
S100A16	0.71		CDH15	0.91
MNDA	0.71		IDS	0.91
CD109	0.71		CD27	0.91
CD300E	0.71		ICAM2	0.91
ACOX1	0.71		PRCP	0.91
CD93	0.71		DPT	0.91
LAG3	0.71		CD209	0.91
TNFRSF1A	0.71		HNMT	0.91
TIMD4	0.71		FCER2	0.91
CXCL13	0.71		CTSL	0.91
MSRA	0.71		OMD	0.91
OXT	0.71		EPO	0.91
VASN	0.71		CST6	0.91
IL1R2	0.71		CPXM1	0.91
CCL5	0.71		CST5	0.91
GFRA3	0.71		ALCAM	0.90
CCL26	0.71		GNLY	0.90
NUCB2	0.71		ITGB2	0.90
P4HB	0.71		NRCAM	0.90
CNDP1	0.71		DLK1	0.90
IL1A	0.71		GFOD2	0.90
CCL17	0.71		WFIKKN1	0.90
CLEC5A	0.71		L1CAM	0.90
TREML2	0.71		CRELD2	0.90
CXCL5	0.71		TNFRSF11B	0.90
CXCL8	0.71		LEFTY2	0.90
IGFBP3	0.71		SCGB1A1	0.90
CDSN	0.71		CLEC7A	0.90
HMOX2	0.71		REG4	0.90
PADI4	0.71		CXCL9	0.90
NOTCH1	0.71		TNFRSF10B	0.90
CD58	0.71		MANSC1	0.90
FABP5	0.70		NA	0.90
LILRB4	0.70		LILRA5	0.90
THBD	0.70		CBLN4	0.90
SPINT1	0.70		AGER	0.90

CXCL8	0.70		CEACAM1	0.90
EGLN1	0.70		IGFBP3	0.90
CXCL6	0.70		GHRL	0.90
CC2D1A	0.70		SSC5D	0.90
BIRC2	0.70		ICAM5	0.90
MMP10	0.70		FUT3_FUT5	0.90
CXCL3	0.70		VEGFD	0.90
DNMBP	0.70		ICAM1	0.90
PTGDS	0.70		CXCL17	0.90
TIGAR	0.70		SIGLEC10	0.90
SEMA7A	0.70		LGMN	0.90
LTBP3	0.70		CXCL3	0.90
BID	0.70		TMPRSS5	0.90
NA	0.70		CLEC11A	0.90
CD300C	0.70		CD109	0.90
TNFRSF10A	0.70		RTN4R	0.89
NCF2	0.70		CLSTN2	0.89
GLRX	0.70		IL4R	0.89
SERPINB9	0.70		GPC5	0.89
NBL1	0.70		CHRD1	0.89
CCL3	0.70		ASAH2	0.89
PPCDC	0.70		PVR	0.89
IQGAP2	0.70		ACP5	0.89
CLPS	0.70		THBS2	0.89
ERBB2	0.70		IGFBP7	0.89
PSME1	0.70		LY75	0.89
GP1BA	0.70		KLK13	0.89
IL6	0.70		ADAMTS16	0.89
TACSTD2	0.70		COL4A1	0.89
MZB1	0.70		PLA2G7	0.89
ACAA1	0.70		ODAM	0.89
SMPD1	0.70		GZMH	0.89
LCN2	0.70		TGFBI	0.89
WIF1	0.70		CXCL11	0.89
SPINT2	0.70		LRIG1	0.89
TPSAB1	0.70		CPVL	0.89
BIN2	0.70		PBLD	0.89
ARSB	0.70		TFF1	0.89
PTK7	0.70		ADGRE2	0.89
CRIP2	0.70		NELL1	0.89
PRTN3	0.69		LAIR1	0.89
IL34	0.69		MERTK	0.89
IL16	0.69		TIMP3	0.89
AOC1	0.69		SIGLEC1	0.89

PDLIM7	0.69		BLMH	0.89
CCL7	0.69		ITGAV	0.89
WARS	0.69		TCN2	0.89
GGT1	0.69		GH2	0.88
ARID4B	0.69		LEP	0.88
VPS53	0.69		TSPAN1	0.88
AK1	0.69		COMP	0.88
VCAM1	0.69		PCDH1	0.88
GZMA	0.69		ART3	0.88
VAT1	0.69		CCL16	0.88
NUDT5	0.69		PON3	0.88
LHB	0.69		QPCT	0.88
ENAH	0.69		VSIG4	0.88
EREG	0.69		KDR	0.88
GAL	0.69		SCLY	0.88
TNFRSF1B	0.69		ADAM15	0.88
MMP12	0.69		MARCO	0.88
OSCAR	0.69		CNTN1	0.88
MEGF9	0.69		CTSS	0.88
PLAUR	0.69		CCDC80	0.88
MAP3K5	0.69		MSTN	0.88
SHMT1	0.69		CXCL6	0.88
PGF	0.69		CLEC4A	0.88
PDGFC	0.69		CA11	0.88
VEGFD	0.69		ADAMTS8	0.88
IFNGR1	0.69		NCAN	0.88
CASP1	0.69		PRTG	0.88
FCN2	0.69		PNPT1	0.88
HYAL1	0.69		IL10RB	0.88
SDC4	0.69		KAZALD1	0.88
CALCA	0.69		KLK11	0.87
SCARB2	0.69		VAMP5	0.87
ABL1	0.69		OSCAR	0.87
CASP8	0.69		IDUA	0.87
GZMB	0.69		TNR	0.87
EPCAM	0.69		ACAN	0.87
INHBC	0.69		SERPINA12	0.87
GALNT2	0.69		C1QA	0.87
CCL13	0.69		TNFSF12	0.87
LTA4H	0.69		ERBB4	0.87
FCGR2A	0.69		MEPE	0.87
HARS1	0.69		SDC1	0.87
BAG6	0.69		FAP	0.87
CCL21	0.69		PTPRS	0.87

MAPK9	0.69		INPL1	0.87
CCN2	0.69		EFNA4	0.87
FCGR3B	0.69		XCL1	0.87
TEK	0.69		OPTC	0.87
RAD23B	0.69		CD70	0.87
CCL19	0.68		MSLN	0.87
PRDX6	0.68		SFTPA1	0.87
GPC1	0.68		FAS	0.87
SIRT2	0.68		MMP7	0.87
PCSK9	0.68		ULBP2	0.87
CEACAM1	0.68		DPP6	0.87
CA4	0.68		SEZ6L2	0.87
COL18A1	0.68		ADM	0.87
PXN	0.68		PDCD1	0.87
PLA2G10	0.68		CDH2	0.87
PVR	0.68		FABP4	0.87
EGF	0.68		EPCAM	0.87
B4GALT1	0.68		LAG3	0.86
LY75	0.68		SOD2	0.86
BST1	0.68		WFDC2	0.86
ANXA4	0.68		CCL15	0.86
TIMP4	0.68		ANGPT2	0.86
LAIR2	0.68		GZMB	0.86
MYOC	0.68		FAM3B	0.86
TCN2	0.68		IL1R2	0.86
RELT	0.68		PLA2G2A	0.86
ROBO1	0.68		NCAM2	0.86
MDGA1	0.68		REN	0.86
CRACR2A	0.68		SMPDL3A	0.86
RAB6A	0.68		TCL1A	0.86
ARTN	0.68		CCN2	0.86
SCGB3A2	0.68		SLAMF8	0.86
MESD	0.68		REG1A	0.86
SCARF1	0.68		TIMP4	0.86
IL1RL1	0.68		C19orf12	0.86
C2	0.68		XG	0.86
PTPN6	0.68		ANPEP	0.86
IL6R	0.68		PIGR	0.86
CD46	0.68		PI3	0.86
TFPI	0.68		IKZF2	0.86
SFTPD	0.68		WIF1	0.86
UBAC1	0.68		NCS1	0.86
IL1RL2	0.67		GPC1	0.86
NDUFS6	0.67		ENG	0.86

PPP1R12A	0.67		PLAU	0.86
DECR1	0.67		CRNN	0.86
PILRB	0.67		CCN5	0.86
FSTL3	0.67		CXCL1	0.86
EFNA4	0.67		DSG3	0.86
NSFL1C	0.67		GUSB	0.86
ITGB7	0.67		ADGRE5	0.86
FKBP4	0.67		KLK10	0.86
SUSD2	0.67		CCL18	0.86
PFKFB2	0.67		MLN	0.85
PDGFB	0.67		GFRA1	0.85
PON2	0.67		TNFRSF6B	0.85
PQBP1	0.67		NCAM1	0.85
PLA2G1B	0.67		DKK1	0.85
LXN	0.67		CCL28	0.85
ADGRB3	0.67		FGFR2	0.85
GGT5	0.67		CES1	0.85
PLPBP	0.67		MMP12	0.85
ADGRG1	0.67		LY96	0.85
EPO	0.67		CCL7	0.85
GUCA2A	0.67		RUVBL1	0.85
PARP1	0.67		CXCL10	0.85
ACTN4	0.67		ITGB5	0.85
B4GAT1	0.67		LAYN	0.85
FOLR2	0.67		ACY1	0.85
CIAPIN1	0.67		SFTPA2	0.85
ERBB4	0.67		ANGPT1	0.85
REG1A	0.67		CLEC4G	0.85
AMBN	0.67		RBP5	0.85
SERPINA11	0.67		CLEC10A	0.85
MMP8	0.67		SUMF2	0.85
PPP1R9B	0.67		CDSN	0.85
DCTN2	0.67		TNFRSF11A	0.85
HBEGF	0.67		MMP13	0.85
PLAT	0.67		DDR1	0.85
VNN2	0.67		EGFL7	0.85
CRELD2	0.67		PROK1	0.85
FCER2	0.67		LIFR	0.84
EGFR	0.67		LRRN1	0.84
KAZALD1	0.67		AMY2A	0.84
ERBB3	0.67		LTBR	0.84
MPO	0.67		NPPC	0.84
STK4	0.66		SETMAR	0.84
STAMBP	0.66		LGALS4	0.84

CDCP1	0.66		SUSD2	0.84
FUT3_FUT5	0.66		TXNDC15	0.84
RP2	0.66		PLAT	0.84
COLEC12	0.66		NID2	0.84
FST	0.66		SCG3	0.84
DSG2	0.66		IGFBP6	0.84
RASSF2	0.66		CLMP	0.84
GFER	0.66		PAK4	0.84
HPCAL1	0.66		THPO	0.84
CCT5	0.66		ERBB3	0.84
CALCOCO1	0.66		TCL1B	0.84
TNFRSF14	0.66		C1QTNF1	0.84
SLAMF8	0.66		CTSO	0.84
APOM	0.66		KYNU	0.84
CKMT1A_CKMT1B	0.66		NPTN	0.84
CD1C	0.66		GAS6	0.84
IL12B	0.66		IL17RA	0.84
RETN	0.66		CTSC	0.84
SNAP23	0.66		CA9	0.84
PTPN1	0.66		DSG2	0.84
NELL2	0.66		CKAP4	0.84
PTPRN2	0.66		THY1	0.84
PCOLCE	0.66		CD302	0.84
IGSF3	0.66		TPP1	0.84
STX4	0.66		NPTXR	0.84
COX5B	0.66		VWC2	0.84
STIP1	0.66		TNFRSF19	0.84
TGFBI	0.66		CHRD2	0.84
MARCO	0.66		SMOC2	0.84
TNFSF13	0.66		IL7R	0.84
CPE	0.66		CGA	0.83
NDRG1	0.66		ADA	0.83
LSP1	0.66		CD1C	0.83
FASLG	0.66		LDLR	0.83
HSPA1A	0.66		TP53INP1	0.83
CTSH	0.66		IL6	0.83
STC2	0.65		CTSD	0.83
PSIP1	0.65		CX3CL1	0.83
NINJ1	0.65		CALB1	0.83
VIM	0.65		TSLP	0.83
TJAP1	0.65		CCL2	0.83
RGMB	0.65		COX5B	0.83
FGR	0.65		INHBC	0.83
AGRN	0.65		CD4	0.83

VEGFC	0.65		RNASET2	0.83
AHSP	0.65		MDK	0.83
IL1RAP	0.65		NA	0.83
CALB1	0.65		NOTCH3	0.83
NCAM2	0.65		SPINK5	0.83
HTRA2	0.65		SLC39A5	0.83
AIF1	0.65		SSB	0.83
OGFR	0.65		PLA2G10	0.83
CD209	0.65		MATN3	0.83
IL4	0.65		DKK3	0.83
EIF4G1	0.65		RSPO3	0.83
DTX3	0.65		CD300E	0.83
NUDC	0.65		NECTIN4	0.83
NBN	0.65		TGFBR2	0.83
AOC3	0.65		P4HB	0.82
CCL11	0.65		TNC	0.82
IL18BP	0.65		DSC2	0.82
PLXNB2	0.65		ADGRG2	0.82
CRKL	0.65		NAAA	0.82
EPHA2	0.65		PCOLCE	0.82
AHCY	0.65		CD74	0.82
EDIL3	0.65		MILR1	0.82
CKAP4	0.65		TNFRSF4	0.82
SCAMP3	0.65		CD58	0.82
RSPO3	0.65		SCARF2	0.82
CCL8	0.65		CD59	0.82
CCN3	0.65		PAM	0.82
DAPP1	0.65		PAMR1	0.82
SERPINA12	0.65		PRSS27	0.82
DEFA1_DEFA1B	0.65		TNFSF13B	0.82
IL11	0.65		FGF23	0.82
ACE2	0.65		SERPINE1	0.82
CCN5	0.65		IGFBP2	0.82
NCS1	0.65		FLT3LG	0.82
KLK14	0.65		SCARB1	0.82
LIF	0.65		GSAP	0.82
CCS	0.64		PRELP	0.82
IL33	0.64		RAB37	0.82
SMARCA2	0.64		AMY2B	0.82
NOMO1	0.64		CHL1	0.82
LIFR	0.64		SPOCK1	0.82
IMPA1	0.64		PLA2G15	0.82
BSG	0.64		DAPP1	0.82
BAX	0.64		GDF2	0.82

AMY2A	0.64		NME3	0.82
TFPI2	0.64		SERPINA11	0.82
IGFBPL1	0.64		CCL27	0.82
CES3	0.64		PTH1R	0.82
AMY2B	0.64		GPA33	0.82
IGFBP1	0.64		AXL	0.82
PRTG	0.64		IL17RB	0.81
APP	0.64		CCL23	0.81
FCRL5	0.64		TEK	0.81
CSF3	0.64		NRP2	0.81
FBP1	0.64		LPO	0.81
PRDX1	0.64		ITGA11	0.81
MAX	0.64		REG3A	0.81
PRSS8	0.64		SERPINA9	0.81
ENPP2	0.64		IL1RL2	0.81
NECTIN4	0.64		IL6	0.81
NCK2	0.64		CLEC6A	0.81
GALNT3	0.64		RSPO1	0.81
PRSS27	0.64		DPP7	0.81
XCL1	0.64		SEZ6L	0.81
LILRB1	0.64		CNPY2	0.81
IL7R	0.64		LGALS7_LGALS7B	0.81
CD99	0.64		HAVCR2	0.81
PARK7	0.64		CCN3	0.81
CCDC80	0.64		PAEP	0.81
MSLN	0.64		PRKAR1A	0.81
GAS6	0.64		CD274	0.81
LTBR	0.64		CDH5	0.81
SUSD1	0.64		BMP6	0.81
APBB1IP	0.64		FOLR2	0.81
IL17RB	0.64		ATF2	0.81
PDCD6	0.64		SESTD1	0.81
BPIFB1	0.64		GFRA3	0.81
CA2	0.64		B4GAT1	0.81
NUB1	0.64		CA4	0.81
ENG	0.64		GRN	0.81
PILRA	0.64		FLRT2	0.81
NMNAT1	0.64		CCL21	0.81
LGALS8	0.64		EPHA2	0.81
LRRN1	0.64		DSG4	0.81
CHL1	0.64		PROC	0.81
HSPG2	0.64		NDUFS6	0.81
DLL1	0.63		LILRB4	0.81
PDCD5	0.63		SELPLG	0.81

DSC2	0.63		PDGFRA	0.81
QPCT	0.63		IL2RA	0.80
PLA2G4A	0.63		KLK14	0.80
ROBO2	0.63		VMO1	0.80
PSME2	0.63		CA5A	0.80
DKK3	0.63		FGF5	0.80
REG1B	0.63		IL6	0.80
ABHD14B	0.63		WARS	0.80
TXNDC5	0.63		HSP90B1	0.80
WFIKN2	0.63		EPHB4	0.80
INPP1	0.63		TRIM21	0.80
ESAM	0.63		ACAA1	0.80
IL17RA	0.63		LIF	0.80
IPCEF1	0.63		ADAM23	0.80
ATOX1	0.63		MUC16	0.80
EPS8L2	0.63		AKR1B1	0.80
IL18	0.63		CCL22	0.80
CRNN	0.63		TMSB10	0.80
CDC27	0.63		FRZB	0.80
NAAA	0.63		JCHAIN	0.80
CD8A	0.63		CAPG	0.80
CEBPB	0.63		TNFRSF10A	0.80
NECTIN2	0.63		IGFBPL1	0.80
ADAMTS13	0.63		APOM	0.80
PTPRF	0.63		GPNMB	0.80
CNTN5	0.63		KIFBP	0.80
ADGRE2	0.63		MASP1	0.79
IRAK1	0.63		KEL	0.79
APRT	0.63		BAIAP2	0.79
TBL1X	0.63		BSG	0.79
FLT1	0.63		VCAN	0.79
DDAH1	0.63		BCAN	0.79
THBS4	0.63		NA	0.79
TGFB1	0.63		TGFB1	0.79
GYS1	0.63		COLEC12	0.79
NT5E	0.63		HGF	0.79
DCBLD2	0.63		FCAR	0.79
MITD1	0.63		IL6	0.79
KRT19	0.63		TREML2	0.79
SSB	0.63		PTN	0.79
PTPRS	0.63		TNFRSF1B	0.79
RARRES2	0.62		GALNT10	0.79
SIGLEC6	0.62		IL13RA1	0.79
NOTCH3	0.62		TNXB	0.79

MMP1	0.62		HAO1	0.79
GLB1	0.62		LTBP3	0.79
DPY30	0.62		TNFRSF8	0.79
APEX1	0.62		ASGR1	0.79
MB	0.62		NRP1	0.79
WFDC12	0.62		SPON2	0.79
ART3	0.62		CNTN4	0.79
DCTPP1	0.62		PTPRM	0.78
LAIR1	0.62		EPHA10	0.78
SSC5D	0.62		HDGF	0.78
TRIM5	0.62		CLC	0.78
LPL	0.62		MATN2	0.78
ATP6AP2	0.62		WNT9A	0.78
NID2	0.62		GFAP	0.78
SRC	0.62		IL19	0.78
JUN	0.62		GALNT3	0.78
CR2	0.62		CES3	0.78
SNAP29	0.62		OSMR	0.78
HAVCR2	0.62		GGT5	0.78
WFDC2	0.62		IL18BP	0.78
ARNT	0.62		ERP44	0.78
EIF4EBP1	0.62		CD83	0.78
TBCC	0.62		PECAM1	0.78
GZMH	0.62		SIGLEC7	0.78
ILKAP	0.62		ALDH1A1	0.78
CCL18	0.62		MB	0.78
TNFRSF21	0.62		IL6ST	0.78
CEACAM3	0.62		TNFRSF1A	0.78
NELL1	0.62		GSTA1	0.78
IRAK4	0.62		CDH3	0.78
SERPINB1	0.62		NDRG1	0.78
MFGE8	0.62		CRIM1	0.78
NRP2	0.62		IGF1R	0.78
IRAG2	0.62		CXCL16	0.78
ANGPTL3	0.62		NINJ1	0.78
LAYN	0.62		EPHB6	0.78
NCAM1	0.62		ANGPTL1	0.77
DNPH1	0.62		CRHBP	0.77
FURIN	0.62		GNE	0.77
CXCL16	0.62		AOC1	0.77
TDRKH	0.62		TNFRSF9	0.77
NCR1	0.61		TNFRSF21	0.77
GDF15	0.61		UXS1	0.77
SPINK1	0.61		C4BPB	0.77

PRSS2	0.61		SCGN	0.77
IL18R1	0.61		KRT18	0.77
IL1R1	0.61		SDC4	0.77
RGMA	0.61		DNAJB8	0.77
IL32	0.61		EFEMP1	0.77
GLO1	0.61		VSTM1	0.77
FUCA1	0.61		TNFSF10	0.77
ANPEP	0.61		HMOX1	0.77
ELOA	0.61		AMN	0.77
TIE1	0.61		COL18A1	0.77
SERPINA9	0.61		C2	0.77
VMO1	0.61		SMPD1	0.77
RRM2B	0.61		LRP11	0.77
FOXO1	0.61		CLEC1A	0.77
VTA1	0.61		AIFM1	0.77
CD22	0.61		PODXL2	0.77
ICAM2	0.61		PDGFA	0.77
TRIM21	0.61		SCARB2	0.77
DDX58	0.61		SPINK1	0.77
CNPY4	0.61		F7	0.77
SELP	0.61		ISM1	0.77
PAEP	0.61		LAMP2	0.77
DOK2	0.61		CDH1	0.77
TREM2	0.61		PIK3IP1	0.77
TPPP3	0.61		NECTIN2	0.77
IFNGR2	0.61		MCAM	0.77
AGR2	0.61		MET	0.77
PLTP	0.61		GDNF	0.77
MATN2	0.61		ICOSLG	0.76
LBP	0.61		EPHA1	0.76
ITGB6	0.61		STX6	0.76
CA9	0.61		CD55	0.76
ITGB5	0.61		PTPRF	0.76
HS3ST3B1	0.61		DPEP2	0.76
MAEA	0.61		NID1	0.76
MICB_MICA	0.61		PDGFB	0.76
TFF1	0.61		CLEC5A	0.76
PAMR1	0.61		IL17A	0.76
IDUA	0.61		AGRP	0.76
CX3CL1	0.61		ARTN	0.76
GH2	0.61		CA12	0.76
ICOSLG	0.60		NTF3	0.76
CETN2	0.60		THBD	0.76
FXN	0.60		BCAM	0.76

SPON1	0.60		CD99	0.76
FABP6	0.60		TNFSF13	0.76
LGMN	0.60		GUCA2A	0.76
PPP1R2	0.60		LEPR	0.76
TGFA	0.60		CD93	0.76
CPPED1	0.60		VTCN1	0.75
SUMF2	0.60		DDC	0.75
PDGFRB	0.60		MYOC	0.75
ALPP	0.60		CREG1	0.75
TGM2	0.60		COL6A3	0.75
BAIAP2	0.60		LRPAP1	0.75
CPA1	0.60		DCBLD2	0.75
BTN2A1	0.60		GALNT2	0.75
AGER	0.60		ADAMTS13	0.75
CD207	0.60		AREG	0.75
SNX9	0.60		IL17D	0.75
CCL14	0.60		ROR1	0.75
ALDH3A1	0.60		FGFBP1	0.75
EPHB4	0.60		CTSH	0.75
OSMR	0.60		APP	0.75
PEBP1	0.60		LPL	0.75
GHRHR	0.60		NFATC3	0.75
SEMA4D	0.60		VEGFC	0.75
MCAM	0.60		HSPB6	0.75
ERBIN	0.60		CLPS	0.75
COL1A1	0.60		CDON	0.75
HAGH	0.60		AMIGO2	0.75
NFKBIE	0.60		DRAXIN	0.75
CXADR	0.60		CD200	0.75
MGLL	0.60		BAG3	0.75
KLK10	0.60		LAT	0.75
CES2	0.59		NUCB2	0.74
TPMT	0.59		PLA2G1B	0.74
USP8	0.59		CTF1	0.74
CASP3	0.59		ITGA5	0.74
IKBK	0.59		KLK8	0.74
DPP4	0.59		LGALS1	0.74
CEACAM5	0.59		LRP1	0.74
LRIG1	0.59		TYRO3	0.74
CRX	0.59		AGXT	0.74
QDPR	0.59		IL1RN	0.74
CLEC14A	0.59		LAMA4	0.74
DSG3	0.59		CD38	0.74
CD274	0.59		BTN3A2	0.74

TIMP3	0.59		PDGFC	0.74
SF3B4	0.59		CXCL14	0.74
XG	0.59		ENTPD6	0.74
SLC27A4	0.59		OGN	0.74
SLC16A1	0.59		CFC1	0.74
ANXA11	0.59		BTC	0.74
PADI2	0.59		RABEPK	0.74
MET	0.59		VWA1	0.74
CPM	0.59		GLT8D2	0.74
MGMT	0.59		EIF5A	0.74
CD99L2	0.59		TFPI2	0.74
SMOC2	0.59		B4GALT1	0.74
ENO2	0.59		ADAM22	0.74
DPT	0.59		OMG	0.73
SPP1	0.59		GFER	0.73
CA1	0.59		NTRK3	0.73
PLA2G2A	0.59		KLB	0.73
AGRP	0.59		NCLN	0.73
CRIM1	0.59		PLIN1	0.73
UMOD	0.59		BMP4	0.73
GCNT1	0.59		PLXDC1	0.73
CDH5	0.59		TIMP1	0.73
CD63	0.59		STC2	0.73
GGH	0.59		PRSS8	0.73
SCG2	0.59		CSTB	0.73
GPNMB	0.59		IL3RA	0.73
CDH3	0.59		PGLYRP1	0.73
GRPEL1	0.58		IGF2R	0.73
CD59	0.58		PPY	0.73
PRCP	0.58		FURIN	0.73
CST3	0.58		ROBO2	0.73
SCRN1	0.58		RRM2	0.73
IL7	0.58		PSIP1	0.73
CLTA	0.58		PDP1	0.73
RHOC	0.58		IVD	0.72
BTC	0.58		GSTA3	0.72
IGSF8	0.58		ADAM8	0.72
SCG3	0.58		NOTCH1	0.72
CXCL14	0.58		FSTL3	0.72
TNFSF14	0.58		REG1B	0.72
CTSV	0.58		CDHR1	0.72
HGS	0.58		TFRC	0.72
ULBP2	0.58		PRTN3	0.72
ANXA3	0.58		SPINK6	0.72

SCARB1	0.58		SCRN1	0.72
CELA3A	0.58		LY6D	0.72
IL6ST	0.58		MOG	0.72
AGR3	0.58		CLPP	0.72
GLOD4	0.58		ADH4	0.72
TNXB	0.58		VAT1	0.72
PRDX3	0.58		LAP3	0.72
S100A11	0.58		CCL14	0.72
IL1B	0.58		HTRA2	0.72
FCRL1	0.58		CRLF1	0.72
CD163	0.58		FETUB	0.72
THOP1	0.57		CD14	0.72
BLMH	0.57		ISLR2	0.71
NPPC	0.57		CETN2	0.71
PIGR	0.57		FST	0.71
PDCD1	0.57		SPON1	0.71
BCAM	0.57		GRK5	0.71
CREG1	0.57		NOMO1	0.71
FHIT	0.57		DCXR	0.71
PODXL2	0.57		FLT3	0.71
CDON	0.57		THOP1	0.71
FKBP7	0.57		SERPINB8	0.71
CHRD1	0.57		MEGF9	0.71
CNTN1	0.57		WFDC12	0.71
PIK3AP1	0.57		JUN	0.71
CD38	0.57		PTPRN2	0.71
SEMA4C	0.57		SPP1	0.71
IL5RA	0.57		CHI3L1	0.71
LYN	0.57		NTproBNP	0.71
CNTNAP2	0.57		RELT	0.71
RSPO1	0.57		VNN2	0.71
JAM2	0.57		PPIB	0.71
LAT2	0.57		IL10RA	0.71
CCL27	0.57		HS6ST1	0.71
CBLIF	0.57		RARRES1	0.71
NA	0.57		ANGPTL4	0.70
SCLY	0.57		CTRC	0.70
SCGB1A1	0.57		EGLN1	0.70
CRADD	0.57		ANGPTL7	0.70
C2CD2L	0.57		HSD11B1	0.70
CSF1	0.57		CSF3	0.70
IL15	0.57		NBL1	0.70
DNAJB8	0.57		TINAGL1	0.70
KDR	0.57		PLAUR	0.70

ANGPTL4	0.57		BTN2A1	0.70
LAMA4	0.57		GPR37	0.70
FCGR2B	0.57		CELA3A	0.70
SPON2	0.57		EPHX2	0.70
SETMAR	0.57		IGSF8	0.70
CLUL1	0.56		MVK	0.70
DNAJB1	0.56		IL24	0.70
CARHSP1	0.56		CKMT1A_CKMT1B	0.69
FOLR1	0.56		MPO	0.69
WWP2	0.56		RP2	0.69
IDS	0.56		ENAH	0.69
DNER	0.56		CD8A	0.69
CHI3L1	0.56		EPS8L2	0.69
MAP4K5	0.56		SMAD5	0.69
CD79B	0.56		EDAR	0.69
LRP11	0.56		CLEC4D	0.69
ADAMTS8	0.56		RTBDN	0.69
KITLG	0.56		ALDH3A1	0.69
IL12A_IL12B	0.56		IL7	0.69
VTCN1	0.56		TST	0.69
F3	0.56		KLK6	0.69
CEP20	0.56		MMP8	0.69
SEPTIN9	0.56		FCGR2B	0.69
LDLR	0.56		IL5	0.68
LEPR	0.56		CD99L2	0.68
IL19	0.56		CCL5	0.68
ADGRE5	0.56		ACTN4	0.68
STX8	0.56		CGREF1	0.68
DDR1	0.56		PODXL	0.68
CTRB1	0.55		IFNGR1	0.68
MFAP5	0.55		AZU1	0.68
PPME1	0.55		NOS3	0.68
SOST	0.55		EZR	0.68
TNFRSF6B	0.55		NA	0.68
TGFBR2	0.55		SELP	0.68
CPB1	0.55		MMP9	0.68
ZBTB17	0.55		PEAR1	0.68
MDK	0.55		PGF	0.68
BCR	0.55		PPP3R1	0.68
CPXM1	0.55		IGFBP4	0.68
SPARCL1	0.55		EGFR	0.68
SAMD9L	0.55		CCL3	0.68
ADM	0.55		S100A16	0.67
TMPRSS5	0.55		ANGPTL2	0.67

ACP6	0.55		SPARCL1	0.67
CTSL	0.55		LCN2	0.67
HYOU1	0.55		PRL	0.67
TXNRD1	0.55		DEFA1_DEFA1B	0.67
HAVCR1	0.55		DCTPP1	0.67
CTSO	0.55		PTX3	0.67
SPARC	0.55		TFPI	0.67
RNASE3	0.55		ADAMTS15	0.67
KIT	0.55		CD300LG	0.67
CCL28	0.55		ANXA3	0.67
ADAM15	0.55		FKBP1B	0.67
TBCB	0.55		CTSB	0.67
CNST	0.55		RETN	0.67
TNF	0.55		CCN1	0.66
CDC37	0.55		SLAMF6	0.66
DEFB4A_DEFB4B	0.55		GOLM2	0.66
TXLNA	0.55		VWF	0.66
TBC1D5	0.55		HLA-DRA	0.66
LRP1	0.55		CRX	0.66
GSTA3	0.55		ITIH3	0.66
EPHB6	0.54		SCG2	0.66
UXS1	0.54		FOXO1	0.66
IL20RA	0.54		CES2	0.66
IL10	0.54		TXNRD1	0.66
CCN4	0.54		CTSZ	0.66
VEGFA	0.54		KIRREL2	0.66
C4BPB	0.54		ANG	0.66
SIAE	0.54		TNFSF11	0.66
LAP3	0.54		THBS4	0.66
SNCG	0.54		SEMA4C	0.66
FGF19	0.54		JAM2	0.66
APOH	0.54		F3	0.65
PDCD1LG2	0.54		SULT2A1	0.65
ICA1	0.54		RANGAP1	0.65
GDNF	0.54		NPDC1	0.65
LGALS4	0.54		SHMT1	0.65
GUSB	0.53		NUDC	0.65
AXL	0.53		FOXO3	0.65
IL13RA1	0.53		CLEC14A	0.65
MED18	0.53		RAB6A	0.65
DPP7	0.53		CXCL13	0.65
VSIG4	0.53		ANGPTL3	0.65
GP6	0.53		ANXA10	0.64
YTHDF3	0.53		PARP1	0.64

MZT1	0.53		SH2D1A	0.64
DFFA	0.53		HYOU1	0.64
REG4	0.53		GH1	0.64
SDC1	0.53		SIAE	0.64
CA13	0.53		ITGB6	0.64
GALNT7	0.53		ATP6AP2	0.64
DPEP1	0.53		CCL20	0.64
FABP2	0.53		GCNT1	0.64
POLR2F	0.53		TBL1X	0.64
COMT	0.53		NPY	0.64
NRP1	0.53		KYAT1	0.64
AIFM1	0.53		GHRHR	0.64
NA	0.53		ARSA	0.64
PEAR1	0.53		SERPINB9	0.64
INPPL1	0.53		MAP4K5	0.64
KYAT1	0.53		MFGE8	0.64
LY96	0.53		CA3	0.64
FUT8	0.53		FLT1	0.64
KRT18	0.53		EREG	0.64
LY9	0.53		TGFA	0.64
ADAM22	0.53		CPA2	0.64
IFNG	0.53		BAX	0.64
NTF3	0.53		SORCS2	0.64
TINAGL1	0.52		GGH	0.64
AFP	0.52		KCNIP4	0.63
ADH4	0.52		HLA-E	0.63
PSPN	0.52		DLL1	0.63
CGREF1	0.52		PTS	0.63
IL17C	0.52		RAD23B	0.63
MMP13	0.52		IL15	0.63
IGFBP4	0.52		GRPEL1	0.63
SH2D1A	0.52		FCRL3	0.63
STAT5B	0.52		FABP1	0.63
ADAMTS15	0.52		DTX3	0.63
EIF5A	0.52		SCP2	0.63
DCTN6	0.52		SORD	0.63
ACY1	0.52		MMP10	0.63
SORT1	0.52		EFNA1	0.63
CHEK2	0.52		RARRES2	0.63
RBKS	0.52		SIT1	0.63
MMP7	0.52		CPA1	0.63
IL17A	0.52		DUOX2	0.63
BACH1	0.52		CD34	0.63
CRTAM	0.52		SLC16A1	0.63

CASP10	0.52		VASN	0.63
RUVBL1	0.52		TNFRSF13C	0.62
ALCAM	0.52		GOPC	0.62
CNTN4	0.52		CEACAM3	0.62
YES1	0.52		GALNT7	0.62
C19orf12	0.51		FGR	0.62
GOLM2	0.51		PPP1R9B	0.62
ING1	0.51		TXLNA	0.61
SELPLG	0.51		TRIAP1	0.61
BAG3	0.51		HBQ1	0.61
SEMA3F	0.51		VPS37A	0.61
ATXN10	0.51		CHMP1A	0.61
F9	0.51		SLAMF1	0.61
ST6GAL1	0.51		DDX58	0.61
FOSB	0.51		CD63	0.61
PRELP	0.51		DPY30	0.61
PRKAB1	0.51		CDKN1A	0.61
EBAG9	0.51		NMNAT1	0.61
ARSA	0.51		GLO1	0.60
STX6	0.51		CASP8	0.60
TLR3	0.51		CEACAM8	0.60
NPM1	0.51		CTSF	0.60
XRCC4	0.51		PRSS2	0.60
CA11	0.51		CRHR1	0.60
ENPP5	0.51		HCLS1	0.60
PIK3IP1	0.51		BAG6	0.60
DDC	0.51		CST3	0.60
ENPP7	0.50		BIRC2	0.60
ITGB1BP1	0.50		CHGB	0.60
CD164	0.50		BAMBI	0.60
FABP4	0.50		F9	0.60
ENTPD2	0.50		TMPRSS15	0.59
TP53INP1	0.50		SLC39A14	0.59
IL4R	0.50		FIS1	0.59
GRAP2	0.50		RAB6B	0.59
SLC39A14	0.50		MAPK9	0.59
HSPB1	0.50		F2R	0.59
AMIGO2	0.50		CSF1	0.59
MTPN	0.50		NPPB	0.59
MEGF10	0.50		BACH1	0.59
FAM3B	0.50		DFFA	0.59
SESTD1	0.50		DKK4	0.59
PLA2G15	0.50		FGF19	0.59
GPKOW	0.50		RGS8	0.59

PODXL	0.50		OLR1	0.59
GPA33	0.50		TNFRSF12A	0.59
TNFRSF19	0.50		HPCAL1	0.58
PRDX5	0.50		HSPG2	0.58
SRPK2	0.50		GFRA2	0.58
MPHOSPH8	0.50		CPB1	0.58
SIT1	0.50		CAMKK1	0.58
SMOC1	0.50		CASP1	0.58
FABP1	0.50		ACVRL1	0.58
USO1	0.50		SAMD9L	0.58
TIMP1	0.49		NA	0.58
GSTP1	0.49		NPM1	0.58
TGFBR3	0.49		CTRB1	0.58
CD2AP	0.49		TSHB	0.58
SMPDL3A	0.49		CD84	0.58
STXBP3	0.49		DCN	0.58
HNRNPK	0.49		TNNI3	0.58
KLK11	0.49		FUS	0.57
ENO1	0.49		RBKS	0.57
F2R	0.49		HEXIM1	0.57
ASGR1	0.49		XRCC4	0.57
PLXNB3	0.49		MGMT	0.57
BANK1	0.49		ITGB1	0.57
VSTM1	0.49		TPMT	0.57
CD300LF	0.49		MFAP5	0.57
DKKL1	0.49		SMOC1	0.57
CDKN1A	0.49		AHCY	0.57
DARS1	0.49		ST6GAL1	0.57
LHPP	0.49		PXN	0.57
PSMA1	0.49		S100P	0.57
RAB37	0.49		SPINT2	0.56
REG3A	0.49		AGR3	0.56
EFEMP1	0.48		IL10	0.56
MANSC1	0.48		EDIL3	0.56
PON3	0.48		IGFBP1	0.56
MIF	0.48		NEFL	0.56
NOS3	0.48		PLXNA4	0.56
CHGB	0.48		MCFD2	0.56
CD160	0.48		CD46	0.56
SEZ6L2	0.48		PRKRA	0.56
EIF4B	0.48		TGFBR3	0.56
CAMKK1	0.48		VIM	0.56
AMBP	0.48		ARID4B	0.56
CD276	0.48		TPPP3	0.55

TNFSF10	0.48		FEN1	0.55
PBLD	0.48		PRDX5	0.55
KLK4	0.48		GBP4	0.55
COPE	0.48		APRT	0.55
ALDH1A1	0.48		FGF21	0.55
CTF1	0.48		RRM2B	0.54
RTN4R	0.48		ATP5IF1	0.54
DRAXIN	0.48		DGKZ	0.54
CDH17	0.48		PSRC1	0.54
HK2	0.48		CD40	0.54
CRTAC1	0.48		HMOX2	0.54
CSTB	0.48		CD5	0.54
ADA2	0.48		ARSB	0.54
ROR1	0.48		PADI4	0.54
TNFRSF11A	0.47		OSM	0.54
AMFR	0.47		LSP1	0.54
CST6	0.47		CLIP2	0.54
SLITRK6	0.47		DUSP3	0.54
DKK4	0.47		MED18	0.54
RET	0.47		WWP2	0.54
MERTK	0.47		PIK3AP1	0.53
VSTM2L	0.47		TYMP	0.53
AARSD1	0.47		IL16	0.53
PRL	0.47		NFKBIE	0.53
ANXA5	0.47		NXPH1	0.53
CXCL1	0.47		TAFA5	0.53
GGA1	0.47		KRT5	0.53
FGFR2	0.47		CEP20	0.53
CD244	0.47		SERPINB6	0.53
MPI	0.47		CLEC1B	0.53
EDAR	0.47		LAMP3	0.53
IL17D	0.47		TXNDC5	0.53
CLEC10A	0.46		HSPA1A	0.53
IL10RB	0.46		LTO1	0.53
C1QTNF1	0.46		LYN	0.53
NPDC1	0.46		SMARCA2	0.53
CLIP2	0.46		RCOR1	0.52
RCOR1	0.46		FBP1	0.52
DRG2	0.46		FKBP4	0.52
ACP5	0.46		STAT5B	0.52
ICAM1	0.46		ANXA11	0.52
GOPC	0.46		IDI2	0.52
DCXR	0.46		CRIP2	0.52
ZBTB16	0.46		NADK	0.52

GALNT10	0.46		SERPINB1	0.52
ADGRG2	0.46		APEX1	0.52
MVK	0.45		ENTPD5	0.52
MILR1	0.45		CPPED1	0.52
XPNPEP2	0.45		ESAM	0.52
SERPINB5	0.45		ZBTB16	0.52
RABGAP1L	0.45		HYAL1	0.52
CA12	0.45		APLP1	0.51
PGLYRP1	0.45		BCR	0.51
SPINK6	0.45		FABP6	0.51
F11R	0.45		FMNL1	0.51
ACTA2	0.45		OGFR	0.51
PTS	0.45		PFKFB2	0.51
CNTN3	0.45		FOLR1	0.51
GFRA1	0.45		IL17C	0.51
CD300LG	0.45		PTPN6	0.51
TBC1D23	0.45		PPCDC	0.51
SORD	0.45		SRPK2	0.51
OMD	0.45		ENO2	0.51
VWF	0.45		SUGT1	0.51
HEXIM1	0.45		PRDX3	0.51
ICAM5	0.45		ARG1	0.51
ARHGAP1	0.45		SRP14	0.51
CCL25	0.44		STK24	0.51
HSD11B1	0.44		SCARF1	0.51
CALB2	0.44		DAG1	0.50
GSTA1	0.44		GP1BA	0.50
ANGPT2	0.44		CNST	0.50
CTSC	0.44		NAMPT	0.50
CST5	0.44		IKBKG	0.50
DPP10	0.44		CEBPB	0.50
CANT1	0.44		PFDN2	0.50
NTF4	0.44		USP8	0.50
TFF3	0.44		RNF41	0.50
NME3	0.44		ITGAM	0.50
KRT14	0.44		LBP	0.49
CDKN2D	0.44		POLR2F	0.49
CPVL	0.44		MITD1	0.49
EFNA1	0.44		PAG1	0.49
PDGFA	0.44		ENO1	0.49
PFDN2	0.43		PVALB	0.49
TARBP2	0.43		SPRY2	0.49
PRKRA	0.43		LBR	0.49
RABEPK	0.43		PPP1R12A	0.49

MCFD2	0.42		NTF4	0.49
VAMP5	0.42		GGA1	0.49
PCDH1	0.42		TPT1	0.49
CEP43	0.42		IQGAP2	0.48
KCNIP4	0.42		CANT1	0.48
STK11	0.42		NFATC1	0.48
GH1	0.42		SEMA3F	0.48
AKR1B1	0.42		NUDT5	0.48
NOS1	0.42		STK11	0.48
SCARF2	0.41		S100A11	0.48
DGKZ	0.41		NUB1	0.48
CTSB	0.41		AMFR	0.47
CA3	0.41		TDRKH	0.47
SOD2	0.41		TRAF2	0.47
AXIN1	0.41		APBB1IP	0.47
RILP	0.41		NTRK2	0.47
FAM3C	0.41		SKAP2	0.47
SUGT1	0.41		NA	0.47
KYNU	0.41		CLSTN1	0.47
CTSS	0.41		QDPR	0.47
SCGN	0.41		SNAP23	0.47
CTRC	0.41		BRK1	0.47
SKAP1	0.41		LSM1	0.47
MIA	0.41		CDC27	0.47
AKT1S1	0.40		LAT2	0.47
TPP1	0.40		VTA1	0.47
KIFBP	0.40		TRIM5	0.47
ENTPD5	0.40		CD164	0.47
PI3	0.40		BOC	0.47
IGFBP2	0.40		PSMD9	0.47
MEPE	0.40		AGR2	0.46
BCAN	0.40		DDAH1	0.46
LPO	0.39		PDCD5	0.46
TPT1	0.39		KRT19	0.46
TIA1	0.39		LGALS8	0.46
FXD5	0.39		RNASE3	0.46
MYO9B	0.39		ANXA5	0.46
IL1RN	0.39		SF3B4	0.46
MAVS	0.39		TFF3	0.46
TNFRSF13C	0.39		MAEA	0.46
NFATC1	0.39		PPP1R2	0.46
NXPH1	0.39		MSRA	0.46
PPIB	0.39		IL12RB1	0.45
NUDT2	0.39		ILKAP	0.45

FLT3LG	0.39		GLOD4	0.45
OGN	0.39		F11R	0.45
MMP9	0.39		GP6	0.45
CLSTN2	0.38		RHOC	0.45
IKZF2	0.38		PLIN3	0.45
CPA2	0.38		FADD	0.45
LGALS3	0.38		SORT1	0.45
SLIT2	0.38		CA13	0.45
SPOCK1	0.38		DIABLO	0.45
HMBS	0.38		MAP2K6	0.45
FLT3	0.38		TIE1	0.44
TNFSF11	0.38		ZBTB17	0.44
ANGPT1	0.38		PCSK9	0.44
WAS	0.38		ABL1	0.44
PCDH17	0.37		SULT1A1	0.44
NFASC	0.37		COPE	0.44
SMAD5	0.37		BANK1	0.44
CHAC2	0.37		MANF	0.44
SIRT5	0.37		EIF4G1	0.44
ANG	0.37		CDNF	0.44
PAM	0.37		CD69	0.44
LYPD1	0.37		GLB1	0.44
CTSD	0.37		SNAP29	0.44
TNFSF12	0.37		IRAG2	0.44
PSMG3	0.37		FYB1	0.43
MUC16	0.37		TJAP1	0.43
IFNLR1	0.37		CXCL8	0.43
TBC1D17	0.37		RABGAP1L	0.43
ECE1	0.37		ELOA	0.43
PROK1	0.37		METAP1D	0.43
ITM2A	0.36		VSIR	0.43
GMPR	0.36		TACC3	0.43
SOD1	0.36		DAB2	0.43
TXNDC15	0.36		SLITRK6	0.43
EBI3_IL27	0.36		NBN	0.43
NRCAM	0.36		TARBP2	0.43
DBI	0.36		MGLL	0.42
FAP	0.35		CASP3	0.42
GPR37	0.35		TBCC	0.42
BRK1	0.35		SEPTIN9	0.42
CA14	0.35		RASSF2	0.42
MOG	0.35		IL20RA	0.42
HLA-E	0.35		DECR1	0.42
MASP1	0.35		MPHOSPH8	0.42

CXCL17	0.35		ICA1	0.42
ACVRL1	0.35		NOS1	0.42
LYAR	0.35		IFNG	0.42
LYPD3	0.35		HS3ST3B1	0.42
ODAM	0.34		FKBP5	0.42
BGN	0.34		TGM2	0.42
PPM1A	0.34		FXN	0.42
FCRL2	0.34		CALB2	0.42
CEP164	0.34		PLXNB3	0.42
FGF21	0.34		MAVS	0.42
TYRO3	0.34		TNFRSF14	0.42
RTBDN	0.34		FLI1	0.42
PTEN	0.34		CRKL	0.42
IL17F	0.33		HAGH	0.42
EPHA10	0.33		IPCEF1	0.41
LGALS7_LGALS7B	0.33		FABP2	0.41
SPINK4	0.33		PTPN1	0.41
CD200	0.33		S100A12	0.41
PPY	0.33		PLA2G4A	0.41
ANKRD54	0.32		GCG	0.41
CA6	0.32		CDKN2D	0.41
IL5	0.32		CEP43	0.41
PLIN1	0.32		CALCOCO1	0.41
CLPP	0.32		BID	0.41
BCL2L11	0.32		CORO1A	0.41
CEP85	0.32		DNAJB1	0.41
CLEC4G	0.32		STAMBP	0.41
L1CAM	0.32		GYS1	0.41
LTA	0.31		STX4	0.40
PMVK	0.31		MIF	0.40
ADA	0.31		SUSD1	0.40
ANGPTL2	0.31		FAM3C	0.40
SFRP1	0.31		TBC1D5	0.40
NT5C3A	0.31		CXCL8	0.40
METAP1D	0.31		HSPB1	0.40
TSPAN1	0.31		DNAJA2	0.40
CRLF1	0.31		PDLIM7	0.40
CD28	0.30		HNRNPK	0.40
PLXNA4	0.30		ARHGEF12	0.40
GRN	0.30		TANK	0.40
ITGA11	0.30		METAP2	0.40
DCN	0.30		CEP85	0.40
HLA-DRA	0.30		CRACR2A	0.40
NA	0.30		RASA1	0.40

TSHB	0.30		FABP5	0.39
ARHGEF12	0.30		AHSP	0.39
DAB2	0.29		LHPP	0.39
SLAMF7	0.29		ABHD14B	0.39
DUSP3	0.29		COMT	0.39
IL10RA	0.29		NCF2	0.39
TRAF2	0.29		ATOX1	0.39
SLC39A5	0.29		CNPY4	0.39
NPTXR	0.29		AXIN1	0.39
CDHR5	0.29		CD28	0.39
HEBP1	0.29		DOK2	0.39
CBLN4	0.29		CXCL8	0.39
ATF2	0.29		SPARC	0.39
PHOSPHO1	0.29		IRAK1	0.39
REN	0.28		GLRX	0.39
CFC1	0.28		DBI	0.38
FLI1	0.28		SFRP1	0.38
DSG4	0.28		LPCAT2	0.38
RRM2	0.28		METAP1	0.38
RGS8	0.28		RGMB	0.38
BMP4	0.28		PSME1	0.38
ATG4A	0.27		CASP10	0.38
CERT	0.27		S100A4	0.38
PNPT1	0.27		BGN	0.38
GLT8D2	0.27		MPIG6B	0.38
GNE	0.27		VPS53	0.38
NPTN	0.26		PMVK	0.38
RNASET2	0.26		STX16	0.37
ATP6V1F	0.26		CXCL8	0.37
MRPL46	0.26		MAP3K5	0.37
LSM1	0.26		DCTN1	0.37
ESM1	0.26		TBCB	0.37
GDF2	0.26		YES1	0.37
CDHR1	0.26		ARHGAP1	0.37
PM20D1	0.26		PSMA1	0.37
TP53	0.26		SCAMP3	0.37
ITGA6	0.25		GRAP2	0.37
FES	0.25		NCK2	0.37
IL15RA	0.25		TBC1D23	0.36
PDP1	0.25		ECE1	0.36
IL20	0.24		CPE	0.36
FGF5	0.24		DBNL	0.36
NRTN	0.24		CIAPIN1	0.36
ISLR2	0.24		MESD	0.36

SH2B3	0.24		LACTB2	0.36
TANK	0.23		EBAG9	0.36
FGF23	0.23		IL13	0.36
KEL	0.23		SRC	0.36
PTN	0.23		DNMBP	0.35
SCARA5	0.23		STX8	0.35
NCAN	0.23		MYO9B	0.35
MAGED1	0.23		NT5C3A	0.35
PRTFDC1	0.23		MFAP3	0.35
PAK4	0.23		ITGA6	0.35
IL12RB1	0.22		PTK7	0.35
COL9A1	0.22		SKAP1	0.35
IL13	0.21		ERBIN	0.35
CASP2	0.21		AMBN	0.34
IL2	0.21		BIN2	0.34
IFNL1	0.21		INPP1	0.34
KLRD1	0.21		SCARA5	0.34
CLMP	0.21		PRKCQ	0.34
TST	0.21		DARS1	0.34
CDH6	0.20		ATG4A	0.34
EPHX2	0.20		WAS	0.34
CD55	0.20		EGF	0.34
IL22RA1	0.20		IL15RA	0.34
NPY	0.20		MRPL46	0.33
NA	0.20		NUDT2	0.33
JCHAIN	0.20		IMPA1	0.33
LEP	0.20		CXCL12	0.32
ANGPTL1	0.20		AKT1S1	0.32
IGFBP7	0.19		DRG2	0.32
EGFL7	0.19		GBP2	0.32
TAFA5	0.19		IRAK4	0.31
LAT	0.19		SIRT2	0.31
LTO1	0.19		CC2D1A	0.31
CA5A	0.19		IL4	0.31
MFAP3	0.19		PARK7	0.31
PDGFRA	0.18		CLSPN	0.31
CD84	0.18		AKR1C4	0.31
OPTC	0.18		FKBP7	0.31
TNFAIP8	0.18		WASF1	0.30
DPP6	0.18		IFNL1	0.30
FGF2	0.17		ANXA4	0.30
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STX16	0.16		CHAC2	0.30
HAO1	0.16		CRADD	0.30
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SEZ6L	0.16		FHIT	0.30
NTRK3	0.15		PKLR	0.30
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CNTN2	0.15		RBP2	0.29
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CTS2	0.14		PLPBP	0.29
IL3RA	0.14		TBC1D17	0.29
AGXT	0.14		MNDA	0.29
ICAM4	0.14		PSME2	0.28
TCL1B	0.13		PRTFDC1	0.28
SULT2A1	0.13		USO1	0.28
CCL15	0.13		RWDD1	0.28
FLT4	0.13		GMPR	0.28
SORCS2	0.12		SLIT2	0.27
FCRL6	0.12		FXYD5	0.27
EZR	0.12		STXBP3	0.27
CD40LG	0.12		IL22RA1	0.27
CLEC1A	0.12		CASP2	0.27
VPS37A	0.12		HGS	0.27
NA	0.11		FGF2	0.27
ADAM23	0.11		VSTM2L	0.26
NA	0.11		NSFL1C	0.26
ADCYAP1R1	0.11		LXN	0.25
PSRC1	0.11		C2CD2L	0.25
FLRT2	0.10		HMBS	0.25
ANXA10	0.10		MAD1L1	0.25
CD34	0.10		AARSD1	0.25
VASH1	0.09		TNFSF14	0.25
VWC2	0.09		SNX9	0.25
NA	0.09		WASF3	0.25
KRT5	0.09		TIGAR	0.25
ITGB1BP2	0.09		TNF	0.24
KIR2DL3	0.08		GSTP1	0.24
AKR1C4	0.08		FOSB	0.24
AKT3	0.08		CEP164	0.23
RANGAP1	0.08		CA2	0.23
FCRLB	0.08		ITGB1BP1	0.23
CDH2	0.08		PSMG3	0.23
FMR1	0.07		TNF	0.22

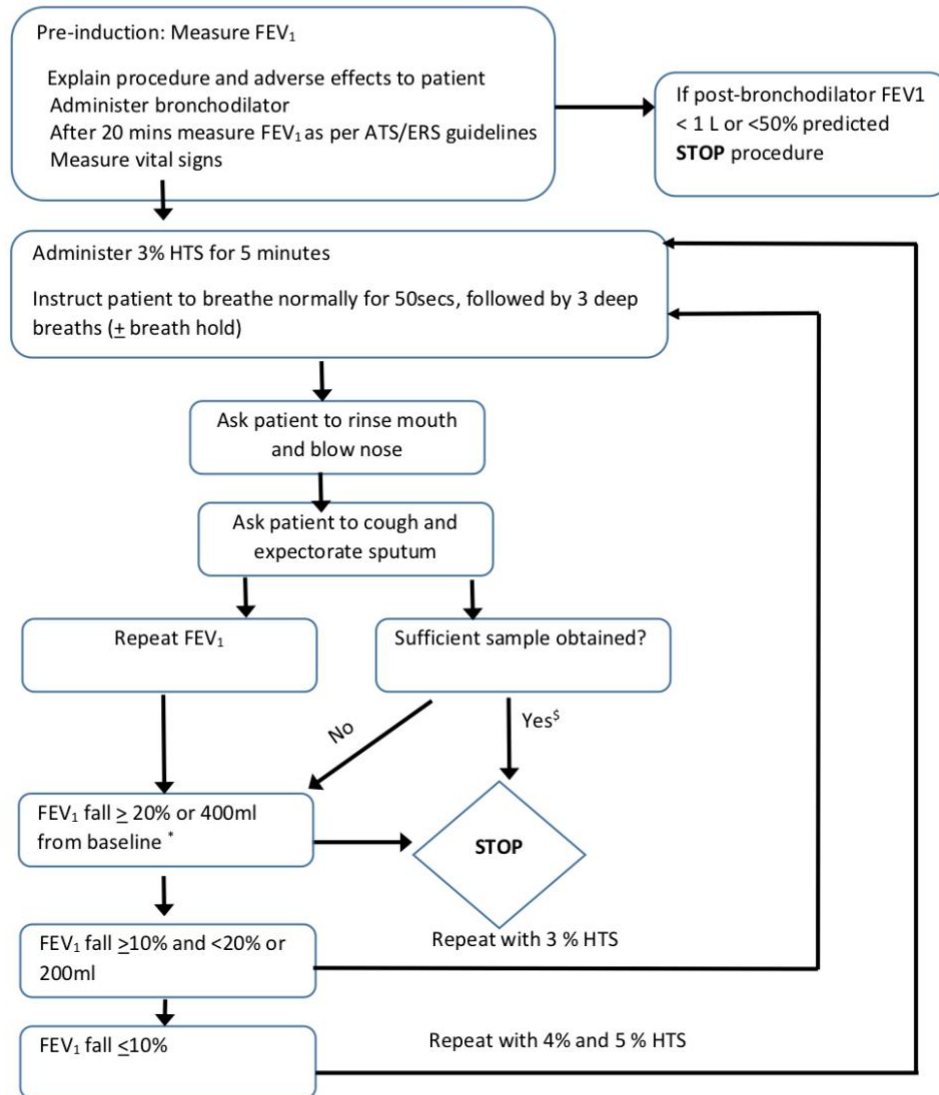
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WNT9A	0.05		NRTN	0.21
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TDGF1	0.05		APOH	0.20
ATP5PO	0.05		AK1	0.20
ASAH2	0.04		SOD1	0.20
FCRL3	0.04		RILP	0.20
BOC	0.04		EIF4EBP1	0.19
RBP5	0.04		IL1B	0.19
MPIG6B	0.03		MPI	0.19
CRHR1	0.03		DNPH1	0.19
IL24	0.03		TNF	0.19
PTPRM	0.02		VASH1	0.19
NA	0.02		MAX	0.18
SLAMF6	0.02		SH2B3	0.16
BAMBI	0.02		SLC27A4	0.16
FABP9	0.02		TIA1	0.16
ATP6V1D	0.02		STIP1	0.16
SCP2	0.01		AIF1	0.15
NA	0.01		AKT3	0.13
ISM1	0.01		PRDX1	0.13
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CDH15	0.01		ATP6V1F	0.13
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CRH	0.00		BLVRB	0.11
IVD	0.00		TNFAIP8	0.11
CD70	0.00		CA1	0.11
NPPB	0.00		HARS1	0.11
FKBP1B	0.00		ANKRD54	0.10
METAP1	0.00		CERT	0.09
CLSTN1	0.00		TNF	0.09
PLXDC1	0.00		BCL2L11	0.09
MEP1B	0.00		ITGB1BP2	0.08
SLAMF1	0.00		PAPPA	0.08
IL2RB	0.00		GKN1	0.08
FOXO3	0.00		CD2AP	0.07
NEFL	0.00		ING1	0.07
NTproBNP	0.00		NA	0.06
GKN1	0.00		UBAC1	0.06
CXCL12	0.00		ATXN10	0.06
TMPRSS15	0.00		CCT5	0.05

TSLP	0.00		PPME1	0.05
PAPPA	0.00		ADCYAP1R1	0.05
WASF1	0.00		IL1A	0.05
PRKCQ	0.00		LYPD8	0.05
MLN	0.00		ATP5PO	0.04
IDI2	0.00		NA	0.04
APLP1	0.00		SERPINB5	0.04
GHRL	0.00		PREB	0.04
BMP6	0.00		EIF4B	0.02
GFRA2	0.00		MAPT	0.00
AMN	0.00		IL2RB	0.00
THPO	0.00		PTEN	0.00
ADAMTS16	0.00		PHOSPHO1	0.00
SIGLEC15	0.00		TP53	0.00
TNR	0.00		HK2	0.00
WFIKKN1	0.00		PRDX6	0.00
RBP2	0.00		KRT14	0.00
NFATC3	0.00		IL2	0.00
			FMR1	0.00
			PPM1A	0.00
			ACOX1	0.00

Appendix

Summaries of RASP-UK standard operating procedures for sputum induction, nasal scrape sampling, and sputum processing in the MAPLE trial are as follows:

Sputum induction



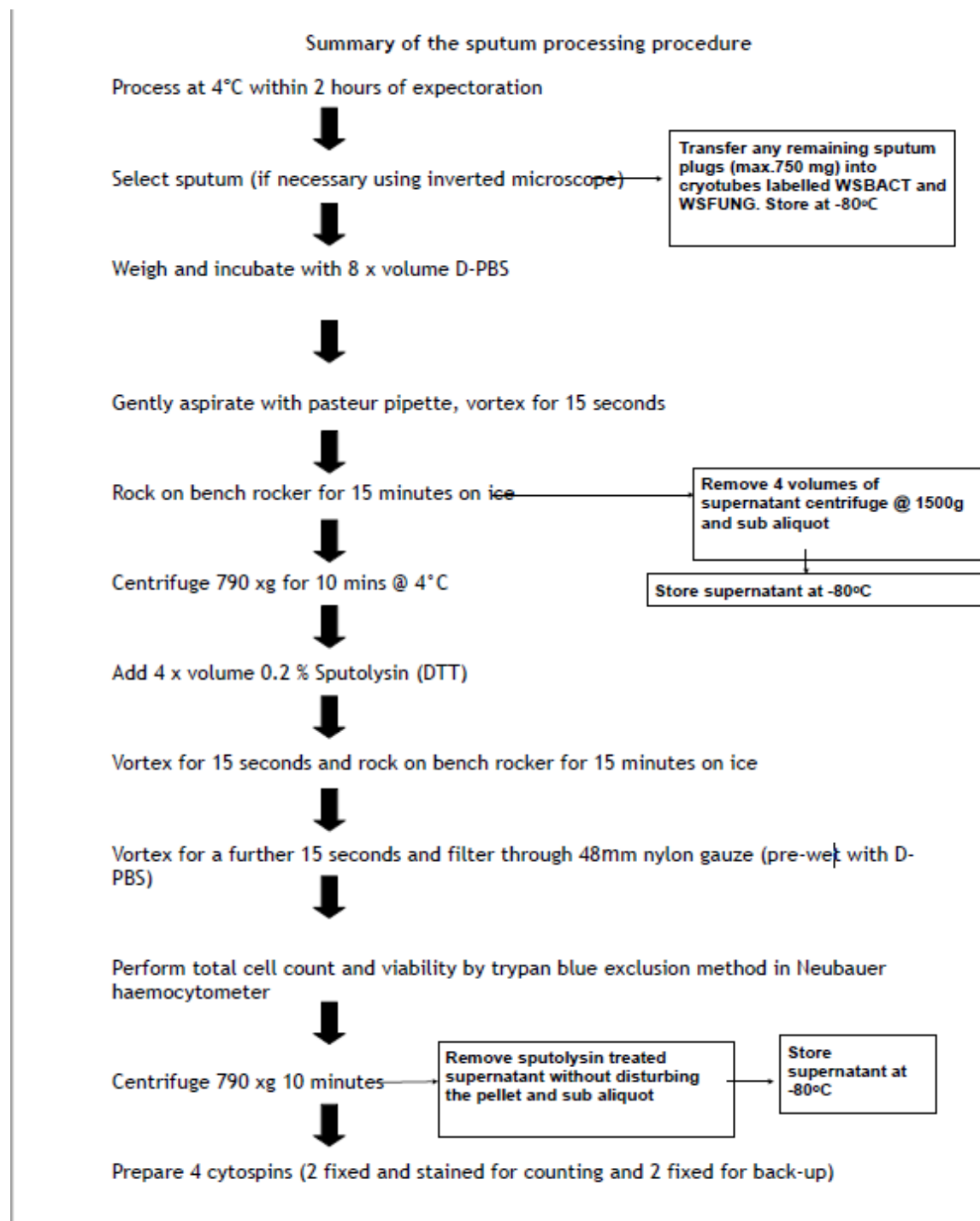
*Start rescue procedure in section 4.7

[§]Re-measure vital signs. Compare to pre-induction values. If stable, procedure is finished. If not, re-measure in 10 minutes. If still not stable, consult with PI/medic.

Nasal scrape sampling

1. Under direct visual inspection, insert cupped probe into the mid- inferior portion of the inferior turbinate.
2. Gently press the cupped tip on mucosal surface and move outwards 2-3mm (from only one nostril). Repeat motion 2-3 times. If the first scrape does not provide a visible sample, a second scrape should be done on the same nostril. If a second scrape is performed, the cells should be added to the same RNA protect as the first scrape. Make sure the second scrape is not traumatic.
3. The nasal cytology curette can be bent on an angle for ease of use.
4. Add 500µl of RNA protect cell reagent into an 2mL RNase/DNase-free cryovial.
5. Dip the curette into the cryovial containing RNA protect reagent. Lightly shake to free the sample from the curette. Discard the used curette.
6. Store samples at -80°C until shipment to central laboratory .

Sputum processing



Supplementary References

1. Treiber T, Treiber N, Meister G. Regulation of microRNA biogenesis and its crosstalk with other cellular pathways. Nat Rev Mol Cell Biol 2019;20:5-20.