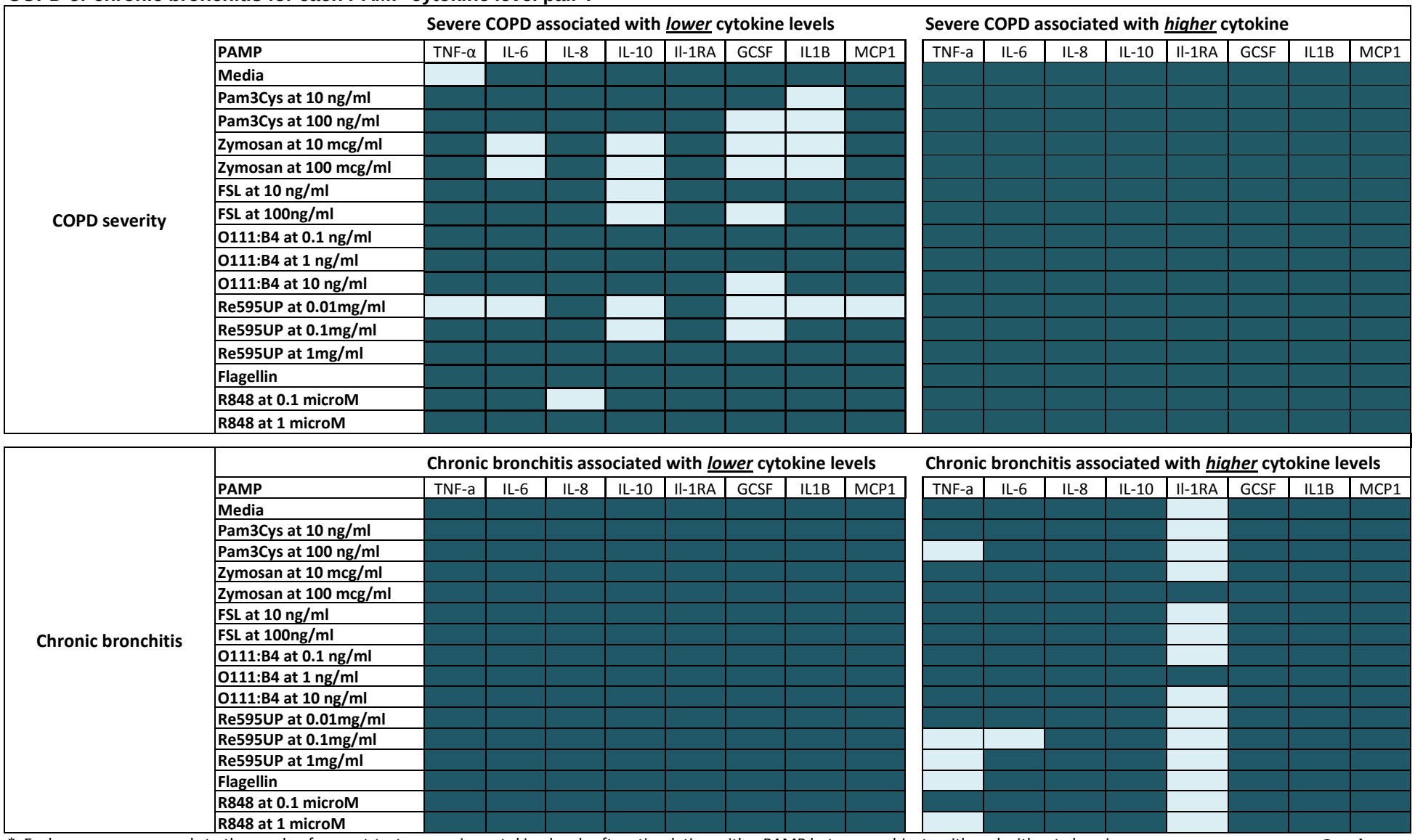
Supplementary Table 1. Pathogen-associated molecular patterns (PAMPs) and corresponding Toll-like receptors that recognize each PAMP and the assigned study ID used in the protocol for each PAMP concentration.

PAMP	Toll-like Receptor	Concentration	Assigned study PAMP ID #
Media	NA	NA	4
Pam3Cys	TLR1/TLR2	Pam3Cys at 10 ng/ml	5
		Pam3Cys at 100 ng/ml	6
Zymosan	TLR2/TLR6	Zymosan at 10 mcg/ml	19
		Zymosan at 100 mcg/ml	20
Dyacylated lipoprotein (Pam2)	TLR2/TLR6	FSL at 10 ng/ml	21
		FSL at 100 ng/ml	22
Smooth form LPS from E. Coli	TLR4	O111:B4 at 0.1 ng/ml	32
		O111:B4 at 1 ng/ml	23
		O111:B4 at 10 ng/ml	1
Rough form LPS from salmonella	TLR4	Re595UP at 0.01 ng/ml	33
		Re595UP at 0.1 ng/ml	27
		Re595UP at 1 ng/ml	11
Flagellin from S. typhimurium	TLR5	Flagellin at 100 ng/ml	2
Imidazoquinoline compound from RNA	TLR7/TLR8	R848 at 0.1 μM	25
		R848 at 1 μM	26

Supplementary Figure 1: Heat map showing models with a false discovery rate < 0.10 comparing cytokine levels for subjects with and without severe COPD or chronic bronchitis for each PAMP-cytokine level pair*.



* Each square corresponds to the q-value for one t-test comparing cytokine levels after stimulation with a PAMP between subjects with and without chronic bronchitis. For example the square in the upper right corner shows the q-value for the t-test comparing MCP-1 levels in response to media (no PAMP) between those with and without chronic bronchitis

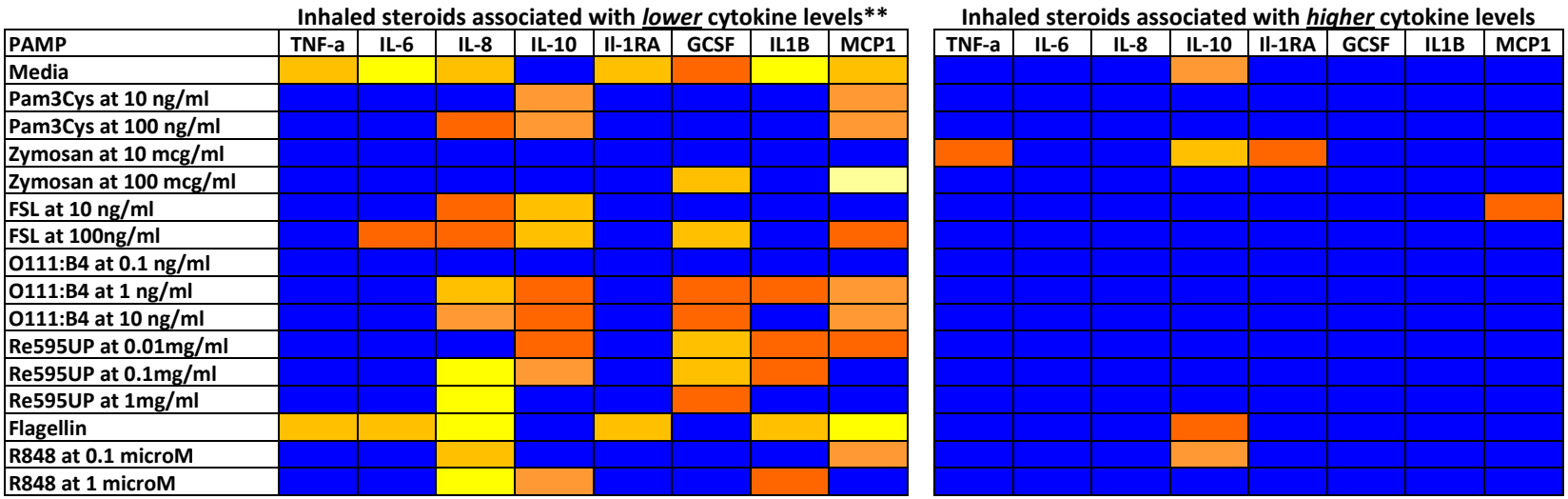
Q-value

< 0.10

≥0.10

Supplementary Figure 2: Heat map showing the strength of tests of associations comparing cytokine levels for subjects using inhaled steroids and those not using inhaled steroids for each PAMP-cytokine level pair stratified by inhaled steroid use.*

P-value range
< 0.01
0.01-0.05
0.05-0.1
0.1-0.15
0.15-0.20
>0.2



* Each square corresponds to the p-value for one t-test comparing cytokine levels after stimulation with a PAMP between subjects with and without severe COPD. For example the square in the upper right corner shows the P-value for the t-test comparing MCP-1 levels in response to media (no PAMP) between those with and without severe COPD.

** t-test comparing the mean log-transformed cytokine values for a given PAMP between subjects with and without severe COPD

Supplementary Figure 3: Heat map showing the strength of tests of associations comparing cytokine levels for subjects with and without severe COPD for each PAMP-cytokine level pair stratified by inhaled steroid use.*

Figure 3a:

Effect of disease severity among patients using inhaled steroids (N=22)

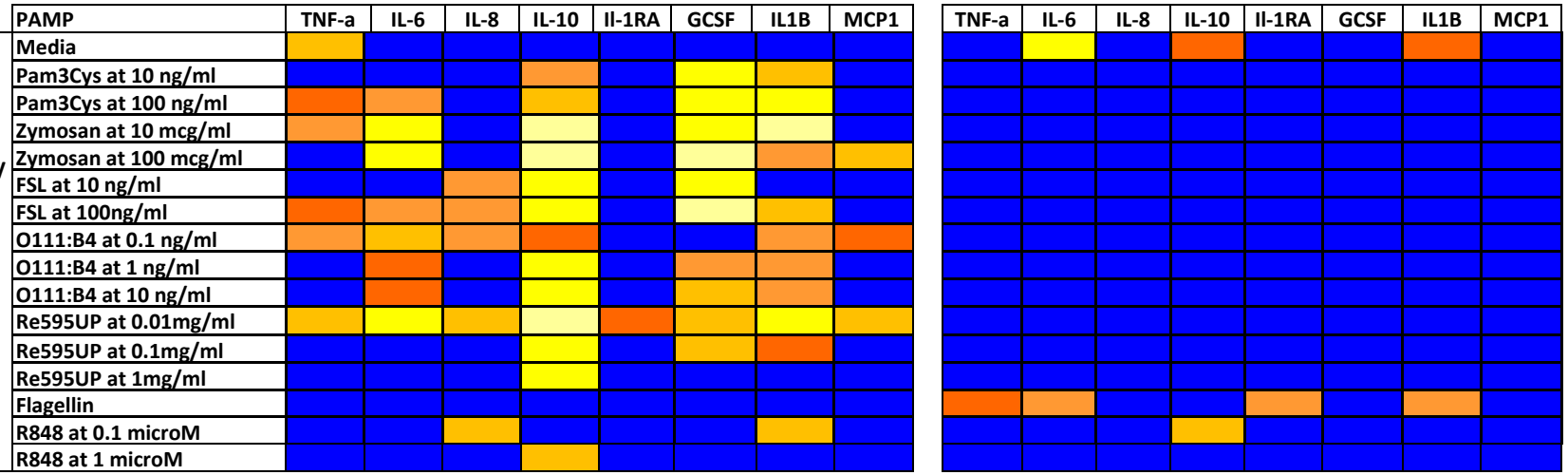
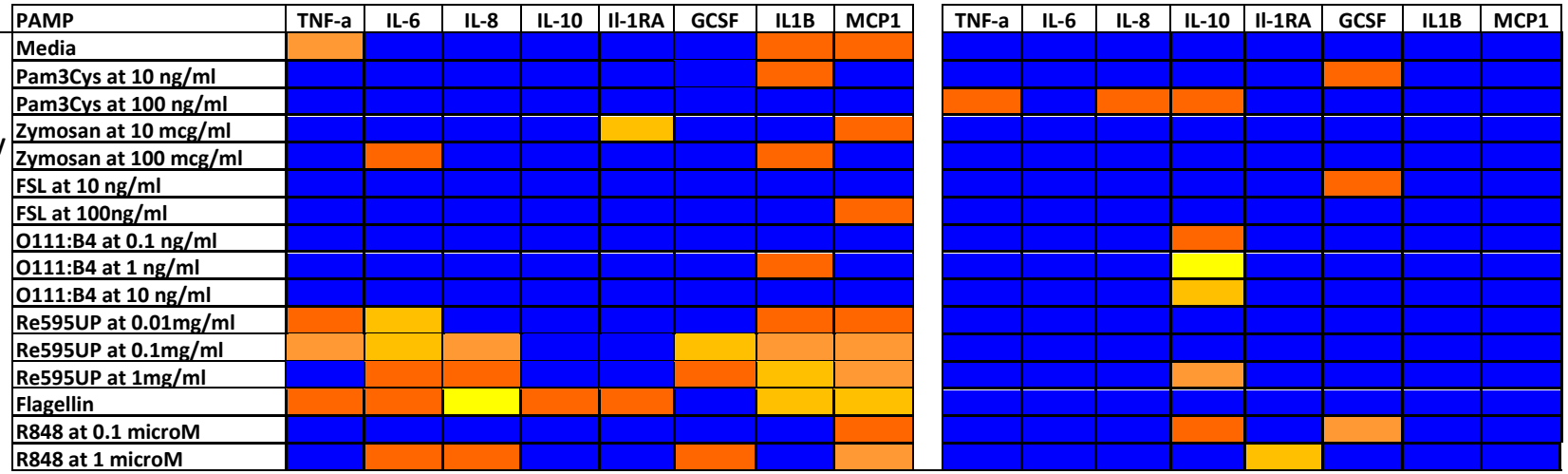


Figure 3b:

Effect of disease severity among patients not using inhaled steroids (N=6)



P-value range	
	< 0.01
	0.01-0.05
	0.05-0.1
	0.1-0.15
	0.15-0.20
	>0.2

* Each square corresponds to the p-value for one t-test comparing cytokine levels after stimulation with a PAMP between subjects with and without severe COPD. For example the square in the upper right corner shows the P-value for the t-test comparing MCP-1 levels in response to media (no PAMP) between those with and without severe COPD.

** t-test comparing the mean log-transformed cytokine values for a given PAMP between subjects with and without severe COPD