Table E4. Upstream Regulators of the genes listed in our dataset (target genes, Table E2 and E3) as predicted by IPA analysis.

Upstream Regulator	*P* value of overlap	Activation z-score	Target molecules in dataset	
			Genes upregulated in dataset	**Genes downregulated**
Cytokine			Target molecules in dataset (≥ 10 genes)	
IFNG	$1.10 \ 10^{-3}$	2.803	BST2, C1R, C3, CCL2, CH25H, CXCL1, CXCL8, EHF, ELAVL2, ICAM1, IL12RB1, IL32, IL6, JAK3, KYNU, LGALS9B, NFKBIA, NFKBIZ, RTP4, SLC1A3, SQSTM1, VDR (22)	EGR3, FKBP6, TLR1
IL1A	$7.79 \ 10^{-5}$	2.567	CCL2, CXCL1, CXCL8, CYP1A1, ICAM1, IL32, IL6, NFKBIA, NFKBIZ, ZC3H12A (10)	
IL4	$5.55 \ 10^{-2}$	2.275	C3, CCL2, CXCL1, CXCL8, ICAM1, IL12RB1, IL6, JAK3, NFKBIA, SQSTM1, USP17L1, VDR (12)	LGALSL
CSF2	$6.77 \ 10^{-4}$	1.999	C3, CCL2, CXCL1, CXCL8, ICAM1, IL32, IL6, NFKBIA, RELB, SQSTM1, VDR (11)	EGR3, TLR1
Signaling			Target molecules in dataset (Activation z-score > 2.220)	
TICAM1	*$1.08 \ 10^{-5}$*	*2.417*	CCL2, CH25H, CXCL8, ICAM1, IL6, NFKBIA, NFKBIZ, RELB	PILRA
TRADD	*$3.08 \ 10^{-7}$*	*2.414*	CCL2, CXCL1, CXCL8, ICAM1, IL6, NFKBIA	
ERK1/2	*$6.67 \ 10^{-2}$*	*2.384*	C3, CCL2, CXCL1, CXCL8, ICAM1, IL6	
IKBKB	*$1.22 \ 10^{-5}$*	*2.230*	C3, CCL2, CH25H, CXCL1, CXCL8, CYP1B1, FGF10, ICAM1, IL6, RELB, LGALS9B, NFKBIA (12)	MBP
Kinase Inhibitors			Target molecules in dataset (activation z-score < -2.300)	
SB203580	*$2.77 \ 10^{-4}$*	*-3.176*	BST2, C3, CCL2, CXCL1, CXCL8, CYP1A1, CYP1B1, EHF, ICAM1, IL6, SECTM1, VDR	
PD98059	*$2.29 \ 10^{-2}$*	*-2.774*	APOA1, C3, CCL2, CXCL1, CXCL8, CYP1A1, CYP1B1, ICAM1, IL6, VDR	EGR3
PS-1145	*$2.39 \ 10^{-8}$*	*-2.418*	CCL2, CXCL1, CXCL8, ICAM1, IL6, NFKBIA	
LY294002	*$4.78 \ 10^{-3}$*	*-2.412*	ADH1C, CCL2, CXCL1, CXCL8, HES1, ICAM1, IL32, IL6, NFKBIA, NPTX1	EGR3, ERBB3
Transcription Factor			Target molecules in dataset (Activation z-score > 2.200)	
CEBPA	*$6.15 \ 10^{-2}$*	*2.400*	ADH1C, C3, CXCL8, ICAM1, IL6, SECTM1, VDR	PPL
EGR1	*$3.12 \ 10^{-2}$*	*2.213*	APOA1, CCL2, CXCL8, ENPEP, ICAM1	
Others				
Lipopolysaccharide (chemical drug)	*$4.89 \ 10^{-3}$*	*3.591*	APOA1, C3, CCL2, CH25H, CPT1B, CXCL1, CXCL8, CYP1A1, EHF, HES1, ICAM1, IL32, IL6, IL12RB1, IGSF1, JAK3, KYNU, NFKBIA, NFKBIZ, NPTX1, RELB, SECTM1, VDR,	DDN, EGR3, SLC22A1, TLR1
Poly rI:rC-RNA (Biologic drug)	*$7.03 \ 10^{-6}$*	*3.322*	BST2, C3, CCL2, CXCL1, CXCL8, DLX1, EHF, ELAVL2, ICAM1, IL32, IL6, LGALS9B, RELB, KYNU, NFKBIA	TLR1
APP (other)	*$1.35 \ 10^{-2}$*	*3.199*	C1R, C3, CCL2, CH25H, CXCL1, CXCL8, HES1, ICAM1, IL6, KL, KYNU, NPTX1, RTP4, TUBA8	MBP, PAK3,
Tretinoin (endogenous mammalian)	*$2.68 \ 10^{-1}$*	*2.603*	C3, CCL2, CCL4L1, CPT1B, CXCL8, CYP1A1, FLRT1, FOXD3, HES	CCDC169
F2 (peptidase/thrombine)	*$1.15 \ 10^{-3}$*	*2.498*	CCL2, CXCL1, CXCL8, ICAM1, IL32, IL6, NFKBIA, RELB	TAGLN3