Supplemental Table S1.

Logic Rules	References
AKT = PIP3	[1]
CCR4 = CCL17	[2]
COX2 = (TNFAR and S1P)	[3][4][5]
EP2 = PGE2	[6]
ERK = MEK	[7][7]
GP130 = IL6	
IKB = not IKK	
IKK = AKT and (not (TNFA and JAK2) or not ROCK or not IRAK1)	[8][9][10]
IL1	
IL13	
IL13R = IL13	
IL1R = IL1	
IL23	
IL23R = IL23	
IL6	
IRAK1 = IL1R	[9]
JAK1 = GP130 or IL13R or TNFA	[8]
JAK2 = GP130 or IL13R or TNFA or IL23R	[11]
MEK = RAF	[12]
MUC1STN = ST6GALNAC1	
P65 = not IKKB	[13][10][14]
PGE2 = COX2	[15]
PI3K = (CCR4 and RAS and not PTEN) or (EP2 and CCR4 and VEGFR and not PTEN)	[16]
PIP3 = PI3K	[16]
PTEN = ROCK and not P65	[16]
RAF = RAS	[12]
RAS = GP130 or EP2 or VEGFR	[17][18]
RHOA = (IL13R and CCR4 and ERK and TGFB)	[2][19][20][21][22]
ROCK = RHOA	[22]
S1P = SPHK1	[23]
SOCS3 = STAT3	[23][24]
SPHK1 = TNFA or ERK	[23][3]
ST6GALNAC1 = ST6GALNAC1gene	
ST6GALNAC1gene = (STAT1 and STAT3 and STAT6), P65	This study
STAT1 = JAK1 or TYK2	[8]
STAT3 = JAK1 or TYK2	[23][25][8]
STAT6 = TYK2 or ROCK	[22][8]
CCL17	
TGFB	
TGFBR = TGFB	
TNFA	
TNFAR = TNFA	
TYK2 = GP130 or IL13R	[2]

VEGF	
VEGFR = VEGF	

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Supplemental Table S3. Update rules and references for computational model variables. This table shows the rules for the update of each of the elements in the model and the references that support the rules.