

Supplemental Table 1: Experimental conditions used in model creation

	Ligand 1	Concentration	Ligand 2	Concentration
	2MA	500 μ M		
	IL-6	300 pM		
	IFA	1 nM		
	ISO	50 nM		
	LPA	2.5 μ M		
	LPS	100 ng/mL		
	PAF	100 nM		
	PGE	10 μ M		
	S1P	1 μ M		
	UDP	25 μ M		
	2MA	500 μ M	IL-6	300 pM
	2MA	500 μ M	IFA	1 nM
	2MA	500 μ M	ISO	50 nM
	2MA	500 μ M	LPA	2.5 μ M
	2MA	500 μ M	LPS	100 ng/mL
	2MA	500 μ M	PAF	100 nM
	2MA	500 μ M	PGE	10 μ M
	2MA	500 μ M	S1P	1 μ M
	2MA	500 μ M	UDP	25 μ M
	IL-6	300 pM	IFA	1 nM
	IL-6	300 pM	ISO	50 nM
	IL-6	300 pM	LPA	2.5 μ M
	IL-6	300 pM	LPS	100 ng/mL
	IL-6	300 pM	PAF	100 nM
	IL-6	300 pM	PGE	10 μ M
	IL-6	300 pM	S1P	1 μ M
	IL-6	300 pM	UDP	25 μ M
	IFA	1 nM	ISO	50 nM
	IFA	1 nM	LPA	2.5 μ M
	IFA	1 nM	LPS	100 ng/mL
	IFA	1 nM	PAF	100 nM
	IFA	1 nM	PGE	10 μ M
	IFA	1 nM	S1P	1 μ M
	IFA	1 nM	UDP	25 μ M
	ISO	50 nM	LPA	2.5 μ M
	ISO	50 nM	LPS	100 ng/mL
	ISO	50 nM	PAF	100 nM
	ISO	50 nM	PGE	10 μ M
	ISO	50 nM	S1P	1 μ M
	ISO	50 nM	UDP	25 μ M
	LPA	2.5 μ M	LPS	100 ng/mL
	LPA	2.5 μ M	PAF	100 nM
	LPA	2.5 μ M	PGE	10 μ M
	LPA	2.5 μ M	S1P	1 μ M
	LPA	2.5 μ M	UDP	25 μ M
	LPS	100 ng/mL	PAF	100 nM
	LPS	100 ng/mL	PGE	10 μ M
	LPS	100 ng/mL	S1P	1 μ M
	LPS	100 ng/mL	UDP	25 μ M
	PAF	100 nM	PGE	10 μ M
	PAF	100 nM	S1P	1 μ M
	PAF	100 nM	UDP	25 μ M
	PGE	10 μ M	S1P	1 μ M
	PGE	10 μ M	UDP	25 μ M
	S1P	1 μ M	UDP	25 μ M

These conditions were identical for both protein phosphorylation state and cytokine output response measurements. Abbreviations: 2MA – 2-Methyl-thio-ATP; IFA – Interferon-alpha; IL-6 – Interleukin-6; ISO – Isoproterenol; LPA – Lysophosphatidic

acid; LPS – Lipopolysaccharide; PAF – Platelet Activating Factor; PGE – Prostaglandin E₂; S1P - Sphingosine-1-phosphate; UDP – Uridine 5'-diphosphate.