

## SUPPLEMENTARY INFO

**Table S1. List of species used in the model of liver signaling and their abbreviations.** The type column marks the designated variables as either extracellular stimuli (S), targets of the small molecule inhibitors (I), or signal readouts (R).

species abbr.	Species full Name	Type
il6	interleukin 6	S
il6r	interleukin 6 receptor	
jak1	Janus Kinase 1	
jak2	Janus Kinase 2	
stat1	Signal transducer and activator of transcription 1	
stat3	Signal transducer and activator of transcription 3	R
stat33	homodimer (STAT3,STAT3)	
stat13	heterodimer (STAT1,STAT3)	
stat11	homodimer (STAT1,STAT1)	
stat3n	nuclear translocation of STAT33	
stat1n	nuclear translocation of STAT11	
ifn $\gamma$	interferon gamma	S
ifn $\gamma$ r	interferon gamma receptor	
tgfa	transforming growth factor alpha	S
egfr	epidermal growth factor alpha	
igf1	insulin growth factor 1	S
igfr	insulin growth factor 1 receptor	
tnf	tumor necrosis factor alpha	S
tnfr	tumor necrosis factor receptor	
il1 $\alpha$	interleukin 1 alpha	S
il1r	interleukin 1 receptor	
lps	Lipopolysaccharide	S
tlr4	Toll-like Receptor 4	
rasgap	Ras GTPase activating protein	
grb2	Growth factor receptor-bound protein 2	
shc	(Src homology 2 domain containing) transforming protein	
sos	Son of sevenless	
ras	rat sarcoma	
raf1	(MAP3K)	
rac	serine/threonine protein kinase ?	
pak	p21-activated kinase	
pi3k	Phosphoinositide 3-kinase	I
irs1_t	insulin receptor substrate protein / Tyrosine phosphorylation of IRS1 (Insulin receptor substrate 1)	
irs1_s	insulin receptor substrate protein / Serine phosphorylation of IRS1 (Insulin receptor substrate 1)	R
a20	inhibitor of NF-kappa B	
pip2	phosphatidylinositol biphosphate	
pip3	phosphatidylinositol 3,4,5-trisphosphate	
pp2a	Protein phosphatase 2	
pdk1	Pyruvate dehydrogenase kinase, isozyme 1	
akt	V-akt murine thymoma viral oncogene homolog	R

cas9	caspase 9	
traf6	TNF receptor associated factor 6	
traf2	TNF receptor associated factor 2	
sitpec	Evolutionarily conserved signaling intermediate in Toll pathway	
ask1	Apoptosis signal-regulating kinase 1	
nik1	Nim1-like kinase 1	
map3k7	MAP (mitogen-activated protein) kinase kinase kinase 7	
map3k1	MAP (mitogen-activated protein) kinase kinase kinase 1	
mek	Mitogen activated protein kinase kinase 1 / Antibody recognizes both MEK1 and MEK2	R/I
mkk7	mitogen-activated protein kinase kinase 7	
mkk4	mitogen-activated protein kinase kinase 4	
mkk6	mitogen-activated protein kinase kinase 6	
mkk3	mitogen-activated protein kinase kinase 3	
erk	extracellular signal-regulated kinase-1 / heterodimer (ERK1,ERK2)	R
erkn	extracellular signal-regulated kinase-1/ Nuclear translocation of heterodimer ERK1 & ERK2	
jnk	Jun N-terminal kinase / heterodimer (JNK1, JNK2)	R
jnk	Jun N-terminal kinase / Nuclear translocation of heterodimer JNK1 & JNK2	
p38	p38 mitogen-activated protein kinase	R/I
p38n	nuclear translocation of P38	
prak	p38 regulated/activated protein kinase	
hsp27	Heat Shock Protein 27	R
p70s6	Phospho-p70 S6 Kinase	R
p90rsk	p90 ribosomal S6 kinase	R
p90rskn	p90 ribosomal S6 kinase / Nuclear translocation of P90RSK	
ikk	I $\kappa$ B kinase	I
cot	Cancer osaka thyroid (kinase)	
mtor	mammalian Target of Rapamycin	I
ikb	nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor	R
nfkB	nuclear factor kappa-light-chain-enhancer of activated B cells	
nfkbn	nuclear factor kappa-light-chain-enhancer of activated B cells / Nuclear translocation of NFKB	
gsk3	Glycogen synthase kinase 3	R/I
mdm2	murine double minute 2	
ck2	casein kinase 2	
p53	tumor protein 53	R
atf2	Activating transcription factor-2	
cjun	N-terminal kinase (JNK)	R
msk12	heterodimer (MSK1,MSK2), mitogen- and stress-activated <i>protein</i> kinase	
creb	cAMP response element binding	R
atf1	activating transcription factor 1	
hist h3	Histone H3	R
elk1	(member of ETS oncogene family)	
cfos	cFos protein	