Table S1: Initial Concentrations (I.C.) in nM.

Species Name	Species Description	I.C.	Ref.	Model
TGF-β	The TGF-β ligand	80	[1]	All
$T1R_{Surf}$	The type I receptor on the cell surface	0.237	[1]	All
$T1R_{Cave}$	The type I receptor in the caveolae	2.092	[1]	All
$T1R_{EE}$	The type I receptor in the early endosome	2.06	[1]	All
$T2R_{Surf}$	The type II receptor on the cell surface	0.202	[1]	All
$T2R_{Cave}$	The type II receptor in the caveolae	1.778	[1]	All
$T2R_{EE}$	The type II receptor in the early endosome	1.148	[1]	All
$pT2R_{Surf}$	Ligand-bound type II receptor on the cell surface	0		All
$pT2R_{Cave}$	Ligand-bound type II receptor in the caveolae	0		All
$pT2R_{EE}$	Ligand-bound type II receptor in the early endosome	0		All
LRC_{Surf}	The ligand-receptor complex on the cell surface	0		All
LRC_{Cave}	The ligand-receptor complex in the caveolae	0		All
LRC_{EE}	The ligand-receptor complex in the early endosome	0		All
T1R:T2R	The T1R-T2R complex released from LRC	0		All
RI	The receptor inhibitor SB-431542	600	[2]	All
LRC_{EE}:RI	The complex of the receptor inhibitor and LRC	0		All
LRC:Smad2	The complex of Smad2 and LRC	0		All
$Smad2_{Cyt}$	Smad2 in the cytoplasm	494.67	[1]	All
$Smad2_{Nuc}$	Smad2 in the nucleus	76.76	[1]	All
$pSmad2_{Cyt}$	Phosphorylated Smad2 in the cytoplasm	0		All
$pSmad2_{Nuc}$	Phosphorylated Smad2 in the nucleus	0		All
$Smad4_{Cyt}$	Smad4 in the cytoplasm	666.65	[1]	All
$Smad4_{Nuc}$	Smad4 in the nucleus	666.65	[1]	All
$Smad2{:}Smad4_{Cyt}$	The complex of Smad2 and Smad4 in the cytoplasm	0		All
$Smad2{:}Smad4_{Nuc}$	The complex of Smad2 and Smad4 in the nucleus	0		All
$Smad2{:}Smad2_{Cyt}$	The homo-dimer of Smad2 in the cytoplasm	0		All
$Smad2{:}Smad2_{Nuc}$	The homo-dimer of Smad2 in the nucleus	0		All
Smad7	Smad7	100		2,3,5,S1
$dephLRC_{Cave}$	Dephosphorylated LRC in the caveolae	0		S1
$dephLRC_{EE}$	Dephosphorylated LRC in the early endosome	0		S1
LRC_{Cave}:Smad7	The complex of Smad7 and LRC in the caveolae	0		S1
LRC_{EE}:Smad7	The complex of Smad7 and LRC in the early endosome	0		S1
PPM1A	Overall PPM1A	10		S2
$PPM1A_{Cyt}$	PPM1A in the cytoplasm	50		8,S3
$PPM1A_{Nuc}$	PPM1A in the nucleus	50		8,S3
$PTEN_{Cyt}$	PTEN in the cytoplasm	Estimated		8,S3
$PTEN_{Nuc}$	PTEN in the nucleus	0		8,S3
$pSmad2{:}PPM1A_{Cyt}$	The complex of pSmad2 and PPM1A in the cytoplasm	0		8,S3
$pSmad2{:}PPM1A{:}PTEN_{Cyt}$	The complex of pSmad2 and PPM1A:PTEN in the cytoplasm	0		8,S3
$pSmad2{:}PTEN_{Cyt}$	The complex of pSmad2 and PTEN in the cytoplasm	0		8,S3
$pSmad2{:}PTEN{:}PPM1A_{Cyt}$	The complex of pSmad2:PTEN and PPM1A in the cytoplasm	0		8,S3
$PPM1A{:}PTEN_{Cyt}$	The PPM1A-PTEN complex released from pSmad2:PTEN:PPM1A in the cytoplasm	0		8,S3
$pSmad2{:}PPM1A_{Nuc}$	The complex of pSmad2 and PPM1A in the nucleus	0		8,S2,S3
$pSmad2{:}PPM1A{:}PTEN_{Nuc}$	The complex of pSmad2 and PPM1A:PTEN in the nucleus	0		8,S3
$PPM1A{:}PTEN_{Nuc}$	The PPM1A-PTEN complex released from pSmad2:PTEN:PPM1A in the nucleus	0		8,S3

Nuclear species have been expressed relative to the concentrations in cytoplasm.

1. Klipp E, Zi Z (2007) Constraint-based modeling and kinetic analysis of the smad dependent tgf-Beta signaling pathway. PLoS ONE 2: e936.

2. Schmierer B, Tournier AL, Bates PA, Hill CS (2008) Mathematical modeling identifies Smad nucleocytoplasmic shuttling as a dynamic signal-interpreting system. Proc Natl Acad Sci U S A 105: 6608-6613.