

Table SI. Analysis results using Reactome database.

Pathway	Hits	P-value
Developmental biology	86	0.00000003
Axon guidance	65	0.00000023
Signaling by PDGF	40	0.00000298
Heme biosynthesis	7	0.00000607
NCAM signaling for neurite out-growth	22	0.00000613
SMAD2/SMAD3:SMAD4 heterotrimer regulates transcription	12	0.00000729
NCAM1 interactions	14	0.00001440
Signaling by Activin	8	0.00001750
Activation of BH3-only proteins	11	0.00001920
Transmission across Chemical Synapses	41	0.00002760
Degradation of collagen	17	0.00004540
Transcriptional activity of SMAD2/SMAD3:SMAD4 heterotrimer	16	0.00004590
Anchoring fibril formation	7	0.00009860
Integrin cell surface interactions	22	0.00012700
Platelet activation, signaling and aggregation	40	0.00015800
Neuronal System	49	0.00016700
Hemostasis	80	0.00018400
SHC-related events triggered by IGF1R	9	0.00021300
Signaling by Hippo	9	0.00021300
Cell surface interactions at the vascular wall	22	0.00025900
Post-transcriptional Silencing By Small RNAs	5	0.00029200
Signaling by TGF-beta Receptor Complex	20	0.00029700
Intrinsic Pathway for Apoptosis	14	0.00031500
Phospholipid metabolism	29	0.00037900
Assembly of collagen fibrils and other multimeric structures	14	0.00040300
Activation of NMDA receptor upon glutamate binding and postsynaptic events	12	0.00043800
Signaling by Interleukins	26	0.00044100
Neurotransmitter Receptor Binding And Downstream Transmission In The Postsynaptic Cell	30	0.00058700
NGF signalling via TRKA from the plasma membrane	38	0.00059900
Regulation of Cholesterol Biosynthesis by SREBP (SREBF)	14	0.00064500
L1CAM interactions	26	0.00066200
Signalling by NGF	52	0.00066300
Constitutive Signaling by NOTCH1 t(7;9)(NOTCH1:M1580_K2555) Translocation Mutant	4	0.00069500
SOS-mediated signalling	7	0.00095300
GRB2 events in EGFR signaling	7	0.00095300
Signaling by BMP	10	0.00103000
Downstream signal transduction	29	0.00113000
Signaling by FGFR in disease	31	0.00120000
Extracellular matrix organization	31	0.00120000
G0 and Early G1	9	0.00135000
BH3-only proteins associate with and inactivate anti-apoptotic BCL-2 members	5	0.00145000
Regulation of Gene Expression by Hypoxia-inducible Factor	5	0.00145000
Transmembrane transport of small molecules	77	0.00145000
Activation of BAD and translocation to mitochondria	7	0.00147000
Generic Transcription Pathway	28	0.00153000
Signaling by SCF-KIT	26	0.00159000
Translocation of Glut4 to the Plasma Membrane	18	0.00160000
Translocation of GLUT4 to the Plasma Membrane	18	0.00160000
Signaling by NODAL	8	0.00174000
ADP signalling through P2Y purinoceptor 12	4	0.00190000
SHC1 events in EGFR signaling	7	0.00217000

Prolonged ERK activation events	8	0.00242000
Degradation of the extracellular matrix	19	0.00278000
Signaling by EGFR	31	0.00298000
ARMS-mediated activation	7	0.00311000
MAP kinase activation in TLR cascade	15	0.00316000
Post-translational protein modification	30	0.00327000
Post-translational modification: synthesis of GPI-anchored proteins	8	0.00328000
Transport of inorganic cations/anions and amino acids/oligopeptides	20	0.00343000
MyD88:Mal cascade initiated on plasma membrane	17	0.00350000
Toll Like Receptor TLR1:TLR2 Cascade	17	0.00350000
MyD88 cascade initiated on plasma membrane	17	0.00350000
Toll Like Receptor 10 (TLR10) Cascade	17	0.00350000
Toll Like Receptor 5 (TLR5) Cascade	17	0.00350000
Signaling by EGFR in Cancer	31	0.00359000
Glutamate Neurotransmitter Release Cycle	6	0.00385000
Signalling to ERKs	11	0.00414000
Elastic fibre formation	11	0.00414000
Death Receptor Signalling	5	0.00438000
Extrinsic Pathway for Apoptosis	5	0.00438000
Activation of the AP-1 family of transcription factors	5	0.00438000
FasL/ CD95L signaling	3	0.00504000
Destabilization of mRNA by Tristetraprolin (TTP)	3	0.00504000
Downstream signaling of activated FGFR	25	0.00514000
Post NMDA receptor activation events	9	0.00525000
Toll Like Receptor 2 (TLR2) Cascade	17	0.00533000
Toll Like Receptor TLR6:TLR2 Cascade	17	0.00533000
Disease	80	0.00552000
Signal amplification	6	0.00559000
Unblocking of NMDA receptor, glutamate binding and activation	6	0.00559000
Cytokine Signaling in Immune system	44	0.00559000
Collagen formation	16	0.00561000
Molecules associated with elastic fibres	10	0.00581000
Frs2-mediated activation	7	0.00589000
Amino acid and oligopeptide SLC transporters	12	0.00624000
Signaling by FGFR	27	0.00630000
Activated TLR4 signalling	20	0.00630000
Neurotransmitter Release Cycle	9	0.00659000
Activation of Gene Expression by SREBP (SREBF)	9	0.00659000
RAF/MAP kinase cascade	5	0.00684000
TRAF6 mediated induction of NFkB and MAP kinases upon TLR7/8 or 9 activation	17	0.00693000
Membrane Trafficking	37	0.00738000
PI Metabolism	12	0.00740000
N-glycan antennae elongation in the medial/trans-Golgi	7	0.00782000
Signalling to p38 via RIT and RIN	6	0.00784000
MyD88 dependent cascade initiated on endosome	17	0.00786000
Toll Like Receptor 7/8 (TLR7/8) Cascade	17	0.00786000
IRS-related events triggered by IGF1R	19	0.00857000
Constitutive Signaling by NOTCH1 PEST Domain Mutants	12	0.00872000
TRAF6 Mediated Induction of proinflammatory cytokines	15	0.00893000
Metabolism of lipids and lipoproteins	79	0.01000000
Toll Like Receptor 9 (TLR9) Cascade	17	0.01000000
GRB2 events in ERBB2 signaling	7	0.01020000
Collagen biosynthesis and modifying enzymes	12	0.01020000
Signal transduction by L1	10	0.01040000
SHC-mediated signalling	6	0.01070000
Toll Like Receptor 4 (TLR4) Cascade	20	0.01090000
Platelet homeostasis	13	0.01140000

G2 Phase	3	0.01160000
Destabilization of mRNA by Butyrate Response Factor 1 (BRF1)	3	0.01160000
Basigin interactions	8	0.01160000
Dimerization of procaspase-8	4	0.01210000
Caspase-8 activation	4	0.01210000
Sodium/Calcium exchangers	4	0.01210000
Platelet sensitization by LDL	4	0.01210000
MAPK targets/ Nuclear events mediated by MAP kinases	9	0.01230000
Netrin-1 signaling	11	0.01230000
Formation of editosomes by ADAR proteins	2	0.01240000
mRNA Editing: A to I Conversion	2	0.01240000
C6 deamination of adenosine	2	0.01240000

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