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Supplemental Information

**p190RhoGAP Filters Competing Signals
to Resolve Axon Guidance Conflicts**

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Table S1. Pathway annotation for p190 interactors (unsupervised) [Related to Figures 5 and S5]

Pathway ID	Database	Pathway	NE	Tot NE	NER	fold enrich	pValue	Annotated Entities
R-HAS-400685	Reactome	Sema4D	4	494	37681	10.17	0.0361	Arhgap35,Rock2,Rac1,Rhoa
R-HAS-8875878	Reactome	MET	6	494	37681	10.17	0.0113	Col2a1,Col1a2,Col1a1,Fn1,Grb2,Rac1
R-HSA-373752	Reactome	Netrin-1	7	494	37681	9.05	0.0117	Ablim1,Mapk8,Plcg1,Rac1,Ezr,Rgma,Cdc42
R-HSA-419037	Reactome	NCAM1	5	494	37681	8.67	0.0362	Col2a1,Col9a2,Ncam1,Gfra1,Agrn
P00047	Panther	PDGF	10	494	37681	7.41	1.09E-06	Rasal1,Gsk3b,Itpr3,Raf1,Grb2,Nin,Mapk8,Vav3,Ikbkap,Plcg1
4310	KEGG	Wnt	14	494	37681	7.12	1.30E-08	Csnk1e,Ppp2r5d,Cacybp,Ppp2r5b,Ppp3ca,Apc,Rhoa,Gsk3b,Mapk8,Ppp3r1,Rock2,Prickle2,Csnk2a1,Rac1
R-HSA-373760	Reactome	L1CAM	12	494	37681	7.10	0.0078	Shtn1,Dlg1,Ap2a1,Rdx,Dcx,Ncam1,Nrcam,Rac1,Csnk2a1,Ank2,Ezr,L1cam
P00034	Panther	Integrin	12	494	37681	6.99	1.75E-07	Rac1,Arpc5l,Raf1,Grb2,Col18a1,Col2a1,Rhoa,Cdc42,Col1a1,Elmo2,Col1a2
R-HSA-2682334	Reactome	EPH-Ephrin	9	494	37681	6.80	0.0251	Itsn1,Vav3,Ap2a1,Rasa1,Rock2,Rac1,Git1,Rhoa,Cdc42
P00018	Panther	EGF	6	494	37681	4.92	0.0014	Rasal1,Rac1,Raf1,Grb2,Plcg1,Nf1
4062	KEGG	Chemokine	11	494	37681	4.74	2.44E-05	Gnai1,Rhoa,Vav3,Cdc42,Gsk3b,Gnb4,Raf1,Grb2,Ikbkb,Rock2,Rac1
P0002	Panther	FGF	5	494	37681	4.24	0.0067	Rasal1,Rac1,Raf1,Grb2,Plcg1
4010	KEGG	MAPK	13	494	37681	3.77	5.09E-05	Ppp3ca,Cdc42,Raf1,Grb2,Ikbkb,Nf1,Cacna2d3,Mapk8,Ppp3r1,Rasa1,Mapt,Rac1,Cacna2d1

Legend:

NE = Number of annotated entities in the input list

Tot NE = Total number of mapped entities in the input list

NER = Number of annotated entities in the reference list

Tot NER = Total number of entities in the reference list

Table S2. Additional p190 interactors annotated in Netrin-1 pathway (manually curated) [Related to Figures 5 and S5]

Genes	# spectra p190 IP/MS	# spectra IgG IP/MS	References
Rasa1	846	0	Antoine-Bertrand et al., 2016 doi: 10.1074/jbc.M115.674846
Akap2	58	0	Deming et al, 2015 doi: 10.1074/jbc.M114.628644
Akap9	5	0	Deming et al, 2015 doi: 10.1074/jbc.M114.628644
SHTN1	5	0	Toriyama et al., 2013 doi: 10.1016/j.cub.2013.02.017
Wasf1	3	0	Bernadskaya et al., 2012 doi: 10.1371/journal.pgen.1002863; Chen et al., 2014 doi: 10.1016/j.cell.2013.11.048
Cyfip1	3	0	Bernadskaya et al., 2012 doi: 10.1371/journal.pgen.1002863; Chen et al., 2014 doi: 10.1016/j.cell.2013.11.048
Abi1	2	0	Xu et al., 2012 doi: 10.1371/journal.pgen.1003054
Abl2	2	0	O'Donnell et al., 2013 doi: 10.1242/dev.093831
Elmo2	2	0	Li at al., 2008 doi:10.1038/nn2022
Evl	2	0	Gitai et al., 2003 https://doi.org/10.1016/S0896-6273(02)01149-2
Raph1	2	0	Stavoe et al., 2012 doi: 10.1101/gad.193409.112
Trim67	2	0	Winkle et al., 2014 doi: 10.1083/jcb.201311003 (by similarity with TRIM9)