

Table S1. Significantly enriched GO categories.

The results for each enriched GO category are listed in this table. For each GO category, the first row lists its sub-root (biological process, molecular function, or cellular component), category name, and corresponding GO ID. The second row lists number of reference genes in the category (C), number of genes in the gene set and also in the category (O), expected number in the category (E), Ratio of enrichment (R), p value from hypergeometric test (rawP), and p value adjusted by the multiple test adjustment (adjP). Finally, genes in the category are listed. For each gene, the table lists the user uploaded ID and value (optional), Entrez ID, Ensembl Gene Stable ID, Gene symbol, and description.

biological process	synapse assembly	GO:0007416		
C=65;O=5;E=0.24;R=20.88;rawP=3.88e-06;adjP=0.0028				
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398 ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501 ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338 ENSRNOG00000007865
Nrg1	NA	Nrg1	neuregulin 1	112400 ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916
biological process	regulation of cell communication	GO:0010646		
C=1792;O=17;E=6.60;R=2.57;rawP=0.0001;adjP=0.0064				
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398 ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501 ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338 ENSRNOG00000007865
Myo9b	NA	Myo9b	myosin IXb	25486 ENSRNOG00000016256
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629 ENSRNOG00000006957
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140 ENSRNOG00000009783
Plau	NA	Plau	plasminogen activator, urokinase	25619 ENSRNOG00000010516
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740 NULL
Cyth1	NA	Cyth1	cytohesin 1	116691 ENSRNOG00000043381
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675 ENSRNOG00000007757
Scoc	NA	Scoc	short coiled-coil protein	364981 ENSRNOG00000003853
Egfr	NA	Egfr	epidermal growth factor receptor	24329 ENSRNOG00000004332
Nrg1	NA	Nrg1	neuregulin 1	112400 ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916
Rheb	NA	Rheb	Ras homolog enriched in brain	26954 NULL
Uaca	NA	Uaca	uveal autoantigen with coiled-coil domains and ankyrin repeats	315732 NULL

biological process localization of cell
C=807;O=11;E=2.97;R=3.70;rawP=0.0001;adjP=0.0064

Cdh2 NA
Ddr2 NA
Ephb1 NA
Epha4 NA
Myo9b NA
Egfr NA
Ptk2 NA
Nrg1 NA
Plau NA
Dcdc2 NA
Vcl NA

GO:0051674

Cdh2 cadherin 2
Ddr2 discoidin domain receptor tyrosine kinase 2
Ephb1 Eph receptor B1
Epha4 Eph receptor A4
Myo9b myosin IXb
Egfr epidermal growth factor receptor
Ptk2 PTK2 protein tyrosine kinase 2
Nrg1 neuregulin 1
Plau plasminogen activator, urokinase
Dcdc2 doublecortin domain containing 2
Vcl vinculin

83501 ENSRNOG00000015602
685781 ENSRNOG00000002881
24338 ENSRNOG00000007865
316539 ENSRNOG00000013213
25486 ENSRNOG00000016256
24329 ENSRNOG00000004332
25614 ENSRNOG00000007916
112400 ENSRNOG00000010392
25619 ENSRNOG00000010516
291130 ENSRNOG00000017511
305679 ENSRNOG00000010765

biological process establishment of cell polarity
C=65;O=4;E=0.24;R=16.70;rawP=9.37e-05;adjP=0.0064

Sdccag8 NA
Ephb1 NA
Cyth1 NA
Myo9b NA

GO:0030010

Sdccag8 serologically defined colon cancer antigen 8
Ephb1 Eph receptor B1
Cyth1 cytohesin 1
Myo9b myosin IXb

305002 ENSRNOG00000004181
24338 ENSRNOG00000007865
116691 ENSRNOG00000043381
25486 ENSRNOG00000016256

biological process synapse organization
C=128;O=5;E=0.47;R=10.60;rawP=0.0001;adjP=0.0064

Cacna1a NA
Cdh2 NA
Ephb1 NA
Nrg1 NA
Ptk2 NA

GO:0050808

Cacna1a calcium channel, voltage-dependent, P/Q type, alpha 1A subunit
Cdh2 cadherin 2
Ephb1 Eph receptor B1
Nrg1 neuregulin 1
Ptk2 PTK2 protein tyrosine kinase 2

25398 ENSRNOG00000002559
83501 ENSRNOG00000015602
24338 ENSRNOG00000007865
112400 ENSRNOG00000010392
25614 ENSRNOG00000007916

biological process regulation of transmission of nerve impulse
C=259;O=7;E=0.95;R=7.34;rawP=4.24e-05;adjP=0.0064

Cacna1a NA
Egfr NA
Cdh2 NA
Gria4 NA

GO:0051969

Cacna1a calcium channel, voltage-dependent, P/Q type, alpha 1A subunit
Egfr epidermal growth factor receptor
Cdh2 cadherin 2
Gria4 glutamate receptor, ionotropic, AMPA 4

25398 ENSRNOG00000002559
24329 ENSRNOG00000004332
83501 ENSRNOG00000015602
29629 ENSRNOG00000006957

Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

biological process cell migration
C=750;O=11;E=2.76;R=3.98;rawP=7.13e-05;adjP=0.0064

GO:0016477

Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765

biological process regulation of neurological system process
C=283;O=7;E=1.04;R=6.71;rawP=7.43e-05;adjP=0.0064

GO:0031644

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

biological process protein autophosphorylation
C=182;O=6;E=0.67;R=8.95;rawP=5.24e-05;adjP=0.0064

GO:0046777

Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916

biological process cell motility

C=807;O=11;E=2.97;R=3.70;rawP=0.0001;adjP=0.0064

Cdh2 NA
Ddr2 NA
Ephb1 NA
Epha4 NA
Myo9b NA
Egfr NA
Ptk2 NA
Nrg1 NA
Plau NA
Dcdc2 NA
Vcl NA

GO:0048870

Cdh2 cadherin 2 83501 ENSRNOG00000015602
Ddr2 discoidin domain receptor tyrosine kinase 2 685781 ENSRNOG00000002881
Ephb1 Eph receptor B1 24338 ENSRNOG00000007865
Epha4 Eph receptor A4 316539 ENSRNOG00000013213
Myo9b myosin IXb 25486 ENSRNOG00000016256
Egfr epidermal growth factor receptor 24329 ENSRNOG00000004332
Ptk2 PTK2 protein tyrosine kinase 2 25614 ENSRNOG00000007916
Nrg1 neuregulin 1 112400 ENSRNOG00000010392
Plau plasminogen activator, urokinase 25619 ENSRNOG00000010516
Dcdc2 doublecortin domain containing 2 291130 ENSRNOG00000017511
Vcl vinculin 305679 ENSRNOG00000010765

biological process central nervous system neuron axonogenesis

C=28;O=3;E=0.10;R=29.08;rawP=0.0001;adjP=0.0064

Ephb1 NA
Epha4 NA
Ptk2 NA

GO:0021955

Ephb1 Eph receptor B1 24338 ENSRNOG00000007865
Epha4 Eph receptor A4 316539 ENSRNOG00000013213
Ptk2 PTK2 protein tyrosine kinase 2 25614 ENSRNOG00000007916

biological process regulation of synaptic transmission

C=233;O=6;E=0.86;R=6.99;rawP=0.0002;adjP=0.0068

Cacna1a NA
Egfr NA
Gria4 NA
Camk2g NA
Ptk2 NA
Rheb NA

GO:0050804

Cacna1a calcium channel, voltage-dependent, P/Q type, alpha 1A subunit 25398 ENSRNOG00000002559
Egfr epidermal growth factor receptor 24329 ENSRNOG00000004332
Gria4 glutamate receptor, ionotropic, AMPA 4 29629 ENSRNOG00000006957
Camk2g calcium/calmodulin-dependent protein kinase II gamma 171140 ENSRNOG00000009783
Ptk2 PTK2 protein tyrosine kinase 2 25614 ENSRNOG00000007916
Rheb Ras homolog enriched in brain 26954 NULL

biological process dendrite morphogenesis

C=76;O=4;E=0.28;R=14.29;rawP=0.0002;adjP=0.0068

Cacna1a NA
Ephb1 NA
Epha4 NA

GO:0048813

Cacna1a calcium channel, voltage-dependent, P/Q type, alpha 1A subunit 25398 ENSRNOG00000002559
Ephb1 Eph receptor B1 24338 ENSRNOG00000007865
Epha4 Eph receptor A4 316539 ENSRNOG00000013213

Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
biological process transmission of nerve impulse		GO:0019226			
C=575;O=9;E=2.12;R=4.25;rawP=0.0002;adjP=0.0068					
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL
biological process monovalent inorganic anion homeostasis		GO:0055083			
C=6;O=2;E=0.02;R=90.48;rawP=0.0002;adjP=0.0068					
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
biological process chloride ion homeostasis		GO:0055064			
C=6;O=2;E=0.02;R=90.48;rawP=0.0002;adjP=0.0068					
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
biological process cellular chloride ion homeostasis		GO:0030644			
C=6;O=2;E=0.02;R=90.48;rawP=0.0002;adjP=0.0068					
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
biological process biological adhesion		GO:0022610			
C=695;O=10;E=2.56;R=3.91;rawP=0.0002;adjP=0.0068					
Stab2	NA	Stab2	stabilin 2	282580	NULL
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602

Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765
Cdh19	NA	Cdh19	cadherin 19, type 2	360835	ENSRNOG00000029841

biological process cellular monovalent inorganic anion homeostasis

C=6;O=2;E=0.02;R=90.48;rawP=0.0002;adjP=0.0068

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916

biological process cell adhesion

C=692;O=10;E=2.55;R=3.92;rawP=0.0002;adjP=0.0068

Stab2	NA	Stab2	stabilin 2	282580	NULL
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765
Cdh19	NA	Cdh19	cadherin 19, type 2	360835	ENSRNOG00000029841

biological process cellular component movement

C=990;O=12;E=3.65;R=3.29;rawP=0.0002;adjP=0.0068

Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Elmo1	NA	Elmo1	engulfment and cell motility 1	361251	ENSRNOG00000018726
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332

Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765

biological process multicellular organismal signaling
C=596;O=9;E=2.20;R=4.10;rawP=0.0003;adjP=0.0089

GO:0035637

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

biological process synaptic transmission
C=470;O=8;E=1.73;R=4.62;rawP=0.0003;adjP=0.0089

GO:0007268

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

biological process cell-cell signaling
C=746;O=10;E=2.75;R=3.64;rawP=0.0003;adjP=0.0089

GO:0007267

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957

Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740	NULL

biological process cell projection morphogenesis
C=496;O=8;E=1.83;R=4.38;rawP=0.0004;adjP=0.0105

GO:0048858

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511

biological process cell morphogenesis
C=756;O=10;E=2.79;R=3.59;rawP=0.0004;adjP=0.0105

GO:0000902

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740	NULL

biological process establishment or maintenance of cell polarity
C=97;O=4;E=0.36;R=11.19;rawP=0.0004;adjP=0.0105

GO:0007163

Sdccag8	NA	Sdccag8	serologically defined colon cancer antigen 8	305002	ENSRNOG00000004181
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256

biological process cell part morphogenesis

C=509;O=8;E=1.88;R=4.27;rawP=0.0005;adjP=0.0114

Cacna1a NA
Cdh2 NA
Ephb1 NA
Epha4 NA
Myo9b NA
Egfr NA
Ptk2 NA
Dcdc2 NA

GO:0032990

Cacna1a calcium channel, voltage-dependent, P/Q type, alpha 1A subunit 25398 ENSRNOG00000002559
Cdh2 cadherin 2 83501 ENSRNOG00000015602
Ephb1 Eph receptor B1 24338 ENSRNOG00000007865
Epha4 Eph receptor A4 316539 ENSRNOG00000013213
Myo9b myosin IXb 25486 ENSRNOG00000016256
Egfr epidermal growth factor receptor 24329 ENSRNOG00000004332
Ptk2 PTK2 protein tyrosine kinase 2 25614 ENSRNOG00000007916
Dcdc2 doublecortin domain containing 2 291130 ENSRNOG00000017511

biological process locomotion

C=937;O=11;E=3.45;R=3.19;rawP=0.0005;adjP=0.0114

Cdh2 NA
Ddr2 NA
Ephb1 NA
Epha4 NA
Myo9b NA
Egfr NA
Ptk2 NA
Nrg1 NA
Plau NA
Dcdc2 NA
Vcl NA

GO:0040011

Cdh2 cadherin 2 83501 ENSRNOG00000015602
Ddr2 discoidin domain receptor tyrosine kinase 2 685781 ENSRNOG00000002881
Ephb1 Eph receptor B1 24338 ENSRNOG00000007865
Epha4 Eph receptor A4 316539 ENSRNOG00000013213
Myo9b myosin IXb 25486 ENSRNOG00000016256
Egfr epidermal growth factor receptor 24329 ENSRNOG00000004332
Ptk2 PTK2 protein tyrosine kinase 2 25614 ENSRNOG00000007916
Nrg1 neuregulin 1 112400 ENSRNOG00000010392
Plau plasminogen activator, urokinase 25619 ENSRNOG00000010516
Dcdc2 doublecortin domain containing 2 291130 ENSRNOG00000017511
Vcl vinculin 305679 ENSRNOG00000010765

biological process regulation of axonogenesis

C=101;O=4;E=0.37;R=10.75;rawP=0.0005;adjP=0.0114

Cacna1a NA
Cdh2 NA
Epha4 NA
Ptk2 NA

GO:0050770

Cacna1a calcium channel, voltage-dependent, P/Q type, alpha 1A subunit 25398 ENSRNOG00000002559
Cdh2 cadherin 2 83501 ENSRNOG00000015602
Epha4 Eph receptor A4 316539 ENSRNOG00000013213
Ptk2 PTK2 protein tyrosine kinase 2 25614 ENSRNOG00000007916

biological process regulation of signaling

C=1791;O=16;E=6.60;R=2.42;rawP=0.0005;adjP=0.0114

GO:0023051

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740	NULL
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL
Uaca	NA	Uaca	uveal autoantigen with coiled-coil domains and ankyrin repeats	315732	NULL

biological process neuron projection morphogenesis

C=396;O=7;E=1.46;R=4.80;rawP=0.0006;adjP=0.0129

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511

biological process localization

C=3501;O=24;E=12.90;R=1.86;rawP=0.0006;adjP=0.0129

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Sec24c	NA	Sec24c	SEC24 family, member C (S. cerevisiae)	685144	ENSRNOG00000009042
Brca2	NA	Brca2	breast cancer 2	360254	ENSRNOG00000001111
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Elmo1	NA	Elmo1	engulfment and cell motility 1	361251	ENSRNOG00000018726
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783

Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765
Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180
Kcnt2	NA	Kcnt2	potassium channel, subfamily T, member 2	304827	ENSRNOG00000013312
Stab2	NA	Stab2	stabilin 2	282580	NULL
Itln1	NA	Itln1	intelectin 1 (galactofuranose binding)	498284	ENSRNOG00000004678
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG000000043381
Ccdc91	NA	Ccdc91	coiled-coil domain containing 91	312863	NULL
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Uaca	NA	Uaca	uveal autoantigen with coiled-coil domains and ankyrin repeats	315732	NULL

biological process Ras protein signal transduction
C=292;O=6;E=1.08;R=5.58;rawP=0.0007;adjP=0.0142

GO:0007265

Elmo1	NA	Elmo1	engulfment and cell motility 1	361251	ENSRNOG00000018726
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG000000043381
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256

biological process cellular component morphogenesis
C=820;O=10;E=3.02;R=3.31;rawP=0.0007;adjP=0.0142

GO:0032989

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740	NULL

biological process	cellular anion homeostasis	GO:0030002		
C=12;O=2;E=0.04;R=45.24;rawP=0.0009;adjP=0.0177				
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398 ENSRNOG00000002559
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916
biological process	peptidyl-tyrosine modification	GO:0018212		
C=211;O=5;E=0.78;R=6.43;rawP=0.0010;adjP=0.0187				
Egfr	NA	Egfr	epidermal growth factor receptor	24329 ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781 ENSRNOG00000002881
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213
Nrg1	NA	Nrg1	neuregulin 1	112400 ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916
biological process	peptidyl-tyrosine phosphorylation	GO:0018108		
C=209;O=5;E=0.77;R=6.49;rawP=0.0010;adjP=0.0187				
Egfr	NA	Egfr	epidermal growth factor receptor	24329 ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781 ENSRNOG00000002881
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213
Nrg1	NA	Nrg1	neuregulin 1	112400 ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916
biological process	regulation of catabolic process	GO:0009894		
C=442;O=7;E=1.63;R=4.30;rawP=0.0011;adjP=0.0195				
Egfr	NA	Egfr	epidermal growth factor receptor	24329 ENSRNOG00000004332
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213
Nrg1	NA	Nrg1	neuregulin 1	112400 ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916
Myo9b	NA	Myo9b	myosin IXb	25486 ENSRNOG00000016256
Uaca	NA	Uaca	uveal autoantigen with coiled-coil domains and ankyrin repeats	315732 NULL
Scoc	NA	Scoc	short coiled-coil protein	364981 ENSRNOG00000003853
biological process	neuron differentiation	GO:0030182		

C=868;O=10;E=3.20;R=3.13;rawP=0.0011;adjP=0.0195

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Cdk5rap1	NA	Cdk5rap1	CDK5 regulatory subunit associated protein 1	252827	ENSRNOG00000015696
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740	NULL

molecular function transmembrane receptor protein tyrosine kinase activity

C=55;O=4;E=0.19;R=21.03;rawP=3.79e-05;adjP=0.0021

GO:0004714

Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213

molecular function transferase activity

C=1632;O=16;E=5.64;R=2.84;rawP=7.46e-05;adjP=0.0021

GO:0016740

Fut11	NA	Fut11	fucosyltransferase 11 (alpha (1,3) fucosyltransferase)	286971	ENSRNOG00000009274
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Brca2	NA	Brca2	breast cancer 2	360254	ENSRNOG00000001111
LOC685793	NA	LOC685793	similar to serine/threonine kinase	685793	ENSRNOG000000030545
Ndst2	NA	Ndst2	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 2	114002	ENSRNOG000000027171
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Gtdc1	NA	Gtdc1	glycosyltransferase-like domain containing 1	362129	ENSRNOG000000031038
Cers4	NA	Cers4	ceramide synthase 4	304208	ENSRNOG00000001072
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
RGD1310572	NA	RGD1310572	similar to calmegin	304646	ENSRNOG00000003695
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Cdk5rap1	NA	Cdk5rap1	CDK5 regulatory subunit associated protein 1	252827	ENSRNOG00000015696
Galk2	NA	Galk2	galactokinase 2	296117	ENSRNOG00000009289

molecular function	protein tyrosine kinase activity	GO:0004713		
C=120;O=5;E=0.41;R=12.05;rawP=5.69e-05;adjP=0.0021				
Egfr	NA	Egfr	epidermal growth factor receptor	24329 ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781 ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338 ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614 ENSRNOG00000007916

molecular function	transmembrane-ephrin receptor activity	GO:0005005		
C=4;O=2;E=0.01;R=144.61;rawP=7.00e-05;adjP=0.0021				
Ephb1	NA	Ephb1	Eph receptor B1	24338 ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213

molecular function	transmembrane receptor protein kinase activity	GO:0019199		
C=70;O=4;E=0.24;R=16.53;rawP=9.80e-05;adjP=0.0022				
Egfr	NA	Egfr	epidermal growth factor receptor	24329 ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781 ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338 ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539 ENSRNOG00000013213

molecular function	alpha-catenin binding	GO:0045294		
C=7;O=2;E=0.02;R=82.63;rawP=0.0002;adjP=0.0038				
Cdh2	NA	Cdh2	cadherin 2	83501 ENSRNOG00000015602
Vcl	NA	Vcl	vinculin	305679 ENSRNOG00000010765

molecular function	calmodulin binding	GO:0005516		
C=117;O=4;E=0.40;R=9.89;rawP=0.0007;adjP=0.0114				
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398 ENSRNOG00000002559
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675 ENSRNOG00000007757
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140 ENSRNOG00000009783
Myo9b	NA	Myo9b	myosin IXb	25486 ENSRNOG00000016256

molecular function kinase activity
C=754;O=9;E=2.61;R=3.45;rawP=0.0010;adjP=0.0127

GO:0016301

Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
LOC685793	NA	LOC685793	similar to serine/threonine kinase	685793	ENSRNOG00000030545
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Galk2	NA	Galk2	galactokinase 2	296117	ENSRNOG00000009289

molecular function ephrin receptor activity
C=13;O=2;E=0.04;R=44.50;rawP=0.0009;adjP=0.0127

GO:0005003

Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213

molecular function phosphotransferase activity, alcohol group as acceptor
C=688;O=8;E=2.38;R=3.36;rawP=0.0023;adjP=0.0237

GO:0016773

Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
LOC685793	NA	LOC685793	similar to serine/threonine kinase	685793	ENSRNOG00000030545
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Galk2	NA	Galk2	galactokinase 2	296117	ENSRNOG00000009289

molecular function transferase activity, transferring phosphorus-containing groups
C=871;O=9;E=3.01;R=2.99;rawP=0.0027;adjP=0.0237

GO:0016772

Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
LOC685793	NA	LOC685793	similar to serine/threonine kinase	685793	ENSRNOG00000030545
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332

Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Galk2	NA	Galk2	galactokinase 2	296117	ENSRNOG00000009289

molecular function Ras GTPase activator activity
C=78;O=3;E=0.27;R=11.12;rawP=0.0025;adjP=0.0237

GO:0005099

Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Tbc1d5	NA	Tbc1d5	TBC1 domain family, member 5	501088	ENSRNOG00000010637

molecular function protein phosphatase binding
C=81;O=3;E=0.28;R=10.71;rawP=0.0027;adjP=0.0237

GO:0019903

Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757

molecular function protein kinase activity
C=583;O=7;E=2.02;R=3.47;rawP=0.0037;adjP=0.0301

GO:0004672

Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
LOC685793	NA	LOC685793	similar to serine/threonine kinase	685793	ENSRNOG00000030545

molecular function enzyme regulator activity
C=787;O=8;E=2.72;R=2.94;rawP=0.0052;adjP=0.0395

GO:0030234

Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Tbc1d5	NA	Tbc1d5	TBC1 domain family, member 5	501088	ENSRNOG00000010637
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Cdk5rap1	NA	Cdk5rap1	CDK5 regulatory subunit associated protein 1	252827	ENSRNOG00000015696

Mup5	NA	Mup5	major urinary protein 5	298107	ENSRNOG00000033130
Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180

molecular function small GTPase regulator activity
C=219;O=4;E=0.76;R=5.28;rawP=0.0068;adjP=0.0456

GO:0005083

Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Tbc1d5	NA	Tbc1d5	TBC1 domain family, member 5	501088	ENSRNOG00000010637

molecular function Rab GTPase activator activity
C=35;O=2;E=0.12;R=16.53;rawP=0.0065;adjP=0.0456

GO:0005097

Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180
Tbc1d5	NA	Tbc1d5	TBC1 domain family, member 5	501088	ENSRNOG00000010637

cellular component cell part
C=11952;O=52;E=42.66;R=1.22;rawP=0.0006;adjP=0.0198

GO:0044464

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Elmo1	NA	Elmo1	engulfment and cell motility 1	361251	ENSRNOG00000018726
Ndst2	NA	Ndst2	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 2	114002	ENSRNOG000000027171
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Hmbox1	NA	Hmbox1	homeobox containing 1	305968	ENSRNOG00000013326
Clgn	NA	Clgn	calmegin	685504	ENSRNOG00000003755
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG00000043381
Scoc	NA	Scoc	short coiled-coil protein	364981	ENSRNOG00000003853
Glcci1	NA	Glcci1	glucocorticoid induced transcript 1	500026	NULL
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Hormad2	NA	Hormad2	HORMA domain containing 2	498400	ENSRNOG000000037865
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Galk2	NA	Galk2	galactokinase 2	296117	ENSRNOG00000009289
Uaca	NA	Uaca	uveal autoantigen with coiled-coil domains and ankyrin repeats	315732	NULL
Fut11	NA	Fut11	fucosyltransferase 11 (alpha (1,3) fucosyltransferase)	286971	ENSRNOG00000009274
Ddr2	NA	Ddr2	discoïdin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602

Emr4	NA	Emr4	EGF-like module containing, mucin-like, hormone receptor-like sequence 4	450235	NULL
Ccdc15	NA	Ccdc15	coiled-coil domain containing 15	367056	ENSRNOG00000032180
Brca2	NA	Brca2	breast cancer 2	360254	ENSRNOG00000001111
Sec24c	NA	Sec24c	SEC24 family, member C (<i>S. cerevisiae</i>)	685144	ENSRNOG00000009042
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Tbc1d5	NA	Tbc1d5	TBC1 domain family, member 5	501088	ENSRNOG00000010637
Sdccag8	NA	Sdccag8	serologically defined colon cancer antigen 8	305002	ENSRNOG00000004181
Arid2	NA	Arid2	AT rich interactive domain 2 (Arid-rfx like)	366980	ENSRNOG00000004831
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Chchd1	NA	Chchd1	coiled-coil-helix-coiled-coil-helix domain containing 1	361005	ENSRNOG00000009297
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765
Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180
Kcnt2	NA	Kcnt2	potassium channel, subfamily T, member 2	304827	ENSRNOG00000013312
Kdm4c	NA	Kdm4c	lysine (K)-specific demethylase 4C	298144	ENSRNOG00000006644
Sall1	NA	Sall1	sal-like 1 (<i>Drosophila</i>)	307740	NULL
Cdh19	NA	Cdh19	cadherin 19, type 2	360835	ENSRNOG00000029841
Stab2	NA	Stab2	stabilin 2	282580	NULL
Itln1	NA	Itln1	intelectin 1 (galactofuranose binding)	498284	ENSRNOG00000004678
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757
Pgm2	NA	Pgm2	phosphoglucomutase 2	289632	NULL
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Cers4	NA	Cers4	ceramide synthase 4	304208	ENSRNOG00000001072
Lpin2	NA	Lpin2	lipin 2	316737	ENSRNOG00000014876
Vom2r37	NA	Vom2r37	vomeronasal 2 receptor, 37	690356	ENSRNOG00000043280
Ccdc91	NA	Ccdc91	coiled-coil domain containing 91	312863	NULL
Ankrd32	NA	Ankrd32	ankyrin repeat domain 32	294601	ENSRNOG000000040279
Cdk5rap1	NA	Cdk5rap1	CDK5 regulatory subunit associated protein 1	252827	ENSRNOG00000015696
LOC688241	NA	LOC688241	similar to GTPase activating protein testicular GAP1	688241	NULL
Tecr	NA	Tecr	trans-2,3-enoyl-CoA reductase	191576	ENSRNOG000000021808
Cpne5	NA	Cpne5	copine V	309650	ENSRNOG00000000522
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

cellular component cell

C=11953;O=52;E=42.66;R=1.22;rawP=0.0007;adjP=0.0198

GO:0005623

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Elmo1	NA	Elmo1	engulfment and cell motility 1	361251	ENSRNOG00000018726

Ndst2	NA	Ndst2	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 2	114002	ENSRNOG00000027171
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Hmbox1	NA	Hmbox1	homeobox containing 1	305968	ENSRNOG00000013326
Clgn	NA	Clgn	calmegin	685504	ENSRNOG00000003755
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG000000043381
Scoc	NA	Scoc	short coiled-coil protein	364981	ENSRNOG00000003853
Glccl1	NA	Glccl1	glucocorticoid induced transcript 1	500026	NULL
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Hormad2	NA	Hormad2	HORMA domain containing 2	498400	ENSRNOG000000037865
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Galk2	NA	Galk2	galactokinase 2	296117	ENSRNOG00000009289
Uaca	NA	Uaca	uveal autoantigen with coiled-coil domains and ankyrin repeats	315732	NULL
Fut11	NA	Fut11	fucosyltransferase 11 (alpha (1,3) fucosyltransferase)	286971	ENSRNOG00000009274
Ddr2	NA	Ddr2	discoïdin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Emr4	NA	Emr4	EGF-like module containing, mucin-like, hormone receptor-like sequence 4	450235	NULL
Ccdc15	NA	Ccdc15	coiled-coil domain containing 15	367056	ENSRNOG000000032180
Brca2	NA	Brca2	breast cancer 2	360254	ENSRNOG00000001111
Sec24c	NA	Sec24c	SEC24 family, member C (S. cerevisiae)	685144	ENSRNOG00000009042
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Tbc1d5	NA	Tbc1d5	TBC1 domain family, member 5	501088	ENSRNOG00000010637
Sdccag8	NA	Sdccag8	serologically defined colon cancer antigen 8	305002	ENSRNOG00000004181
Arid2	NA	Arid2	AT rich interactive domain 2 (Arid-rfx like)	366980	ENSRNOG00000004831
Plau	NA	Plau	plasminogen activator, urokinase	25619	ENSRNOG00000010516
Camk2g	NA	Camk2g	calcium/calmodulin-dependent protein kinase II gamma	171140	ENSRNOG00000009783
Dcdc2	NA	Dcdc2	doublecortin domain containing 2	291130	ENSRNOG00000017511
Chchd1	NA	Chchd1	coiled-coil-helix-coiled-coil-helix domain containing 1	361005	ENSRNOG00000009297
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765
Tbc1d1	NA	Tbc1d1	TBC1 (tre-2/USP6, BUB2, cdc16) domain family, member 1	360937	ENSRNOG00000002180
Kcnt2	NA	Kcnt2	potassium channel, subfamily T, member 2	304827	ENSRNOG00000013312
Kdm4c	NA	Kdm4c	lysine (K)-specific demethylase 4C	298144	ENSRNOG00000006644
Sall1	NA	Sall1	sal-like 1 (Drosophila)	307740	NULL
Cdh19	NA	Cdh19	cadherin 19, type 2	360835	ENSRNOG00000029841
Stab2	NA	Stab2	stabilin 2	282580	NULL
Itln1	NA	Itln1	intelectin 1 (galactofuranose binding)	498284	ENSRNOG00000004678
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757
Pgm2	NA	Pgm2	phosphoglucomutase 2	289632	NULL
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Cers4	NA	Cers4	ceramide synthase 4	304208	ENSRNOG00000001072
Lpin2	NA	Lpin2	lipin 2	316737	ENSRNOG00000014876

Vom2r37	NA	Vom2r37	vomeronasal 2 receptor, 37	690356	ENSRNOG00000043280
Ccdc91	NA	Ccdc91	coiled-coil domain containing 91	312863	NULL
Ankrd32	NA	Ankrd32	ankyrin repeat domain 32	294601	ENSRNOG00000040279
Cdk5rap1	NA	Cdk5rap1	CDK5 regulatory subunit associated protein 1	252827	ENSRNOG00000015696
LOC688241	NA	LOC688241	similar to GTPase activating protein testicular GAP1	688241	NULL
Tecr	NA	Tecr	trans-2,3-enoyl-CoA reductase	191576	ENSRNOG00000021808
Cpne5	NA	Cpne5	copine V	309650	ENSRNOG00000000522
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

cellular component intercalated disc
C=38;O=3;E=0.14;R=22.12;rawP=0.0003;adjP=0.0198

Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765

cellular component cell-cell contact zone
C=40;O=3;E=0.14;R=21.02;rawP=0.0004;adjP=0.0198

Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765

cellular component fascia adherens
C=13;O=2;E=0.05;R=43.11;rawP=0.0010;adjP=0.0226

Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765

cellular component plasma membrane part
C=1300;O=12;E=4.64;R=2.59;rawP=0.0018;adjP=0.0339

Stab2	NA	Stab2	stabilin 2	282580	NULL
Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Itln1	NA	Itln1	intelectin 1 (galactofuranose binding)	498284	ENSRNOG00000004678
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213

Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Kcnt2	NA	Kcnt2	potassium channel, subfamily T, member 2	304827	ENSRNOG00000013312

cellular component cell periphery
C=3057;O=20;E=10.91;R=1.83;rawP=0.0032;adjP=0.0452

Cacna1a	NA	Cacna1a	calcium channel, voltage-dependent, P/Q type, alpha 1A subunit	25398	ENSRNOG00000002559
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ddr2	NA	Ddr2	discoidin domain receptor tyrosine kinase 2	685781	ENSRNOG00000002881
Ephb1	NA	Ephb1	Eph receptor B1	24338	ENSRNOG00000007865
Myo9b	NA	Myo9b	myosin IXb	25486	ENSRNOG00000016256
Elmo1	NA	Elmo1	engulfment and cell motility 1	361251	ENSRNOG00000018726
Gria4	NA	Gria4	glutamate receptor, ionotropic, AMPA 4	29629	ENSRNOG00000006957
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765
Kcnt2	NA	Kcnt2	potassium channel, subfamily T, member 2	304827	ENSRNOG00000013312
Cdh19	NA	Cdh19	cadherin 19, type 2	360835	ENSRNOG00000029841
Stab2	NA	Stab2	stabilin 2	282580	NULL
Itln1	NA	Itln1	intelectin 1 (galactofuranose binding)	498284	ENSRNOG00000004678
Ppp3cb	NA	Ppp3cb	protein phosphatase 3, catalytic subunit, beta isozyme	24675	ENSRNOG00000007757
Epha4	NA	Epha4	Eph receptor A4	316539	ENSRNOG00000013213
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG000000043381
Vom2r37	NA	Vom2r37	vomer nasal 2 receptor, 37	690356	ENSRNOG000000043280
Egfr	NA	Egfr	epidermal growth factor receptor	24329	ENSRNOG00000004332
Nrg1	NA	Nrg1	neuregulin 1	112400	ENSRNOG00000010392
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Rheb	NA	Rheb	Ras homolog enriched in brain	26954	NULL

cellular component cell-cell junction
C=273;O=5;E=0.97;R=5.13;rawP=0.0028;adjP=0.0452

Sdccag8	NA	Sdccag8	serologically defined colon cancer antigen 8	305002	ENSRNOG00000004181
Cdh2	NA	Cdh2	cadherin 2	83501	ENSRNOG00000015602
Ptk2	NA	Ptk2	PTK2 protein tyrosine kinase 2	25614	ENSRNOG00000007916
Cyth1	NA	Cyth1	cytohesin 1	116691	ENSRNOG000000043381
Vcl	NA	Vcl	vinculin	305679	ENSRNOG00000010765