

Supplementary Table

A. Expression pattern of each gene

1. Transcription Factors

Annotation	Gene ID # or Antibody Information	Expression pattern at P10
Pou domain, class 3, transcription factor 3 (Pou3f3)	goat (Santa Cruz, sc-6028)	by IHC, ubiquitous expression
Brain-specific homeobox/POU domain protein 3a (Brn3a)	mouse (Millipore, MAB1585)	by IHC, ubiquitous expression
Diencephalon/mesencephalon homeobox 1 (Dmbx1)	NM_130865	by ISH, ubiquitous expression (more abundant in superficial layer)
Meis homeobox 2 (Meis2)	goat (Santa Cruz, sc-10600)	by IHC, ubiquitous expression (strong in deep layer)
Orthodenticle homolog 2 (Otx2)	NM_001286483	by ISH, ubiquitous expression (more abundant in superficial layer)
T-box brain gene 1 (Tbr1)	NM_009322	by ISH, no expression
Transducin-like enhancer of split 4 (Tle4)	rabbit (Santa Cruz, sc-9125)	by IHC, ubiquitous expression

2. Cell Surface Molecules

Annotation	Gene ID#	Expression pattern at P5/P10 by ISH
Contactin 2	BC053033	no expression
Neighbor of Punc e11 protein (Nope)	AF176694	no expression
Immunoglobulin superfamily, DCC subclass, member 3	BC053057	no expression
Protogenin homolog	NM_175485	no expression
Immunoglobulin superfamily member 9 (IGSF9)	AF317839	no expression
Cell adhesion molecule-related/down-regulated by oncogenes (Cdon)	NM_021339	no expression
Cdon binding protein (Boc)	NM_172506	no expression
Leucine rich repeat and fibronectin type III domain containing 1 (Lrfn1)	NM_001141921	no expression
Obscurin-like 1 (Obsl1)	NM_178884	no expression

Cell adhesion molecule 1 (Cadm1)	NM_207675	deep layer (very sparse expression)
Cell adhesion molecule 4 (Cadm4)	NM_153112	ubiquitous expression
Cell adhesion molecule 2 (Cadm2)	NM_178721	ubiquitous expression
Cell adhesion molecule 3 (Cadm3)	NM_053199	ubiquitous expression (strong in deep layer)
Poliovirus receptor-related 1	NM_021424	no expression
Poliovirus receptor-related 2	BC046770	no expression
Poliovirus receptor-related 3	NM_021496	no expression
Poliovirus receptor-related 4	BC024948	no expression
Nephrin (Nphs1)	AF191090	no expression
Kin of IRRE like 2	BC052773	no expression
NEPH1	AY243095	no expression
Kin of IRRE like 3 (Kirrel 3)	NM_001190912	ubiquitous expression (strong in deep layer)
Endothelial cell-selective adhesion molecule (Esam)	AF361882	no expression
Immunoglobulin superfamily member 11 (IGSF11)	NM_170599	no expression
Junctional adhesion molecule (JAM)	U89915	no expression
Vascular endothelial junction-associated molecule	AF255911	no expression
Junctional cell adhesion molecule 3 (JAM3)	AK008187	no expression
Cell surface protein MCAR	U90715	ubiquitous expression (strong in deep layer)
SLAM family member 9	BC019477	no expression
16-domain form of sialoadhesin	Z36233	no expression
follistatin-like 4 (Fstl4)	NM_177059	no expression
CXADR-like membrane protein (CLMP)	NM_133733	no expression
Similar to microfibril-associated glycoprotein 3 precursor	AK076071	no expression
V-set and immunoglobulin domain containing 2 (Vsig2)	NM_020518	no expression
Immunoglobulin superfamily, member 1 (Igsf1)	NM_177591	no expression
MMAC8	AB065156	no expression
CD83 antigen	AF001036	no expression
S-glycerin/MUC18	AB035509	no expression
Lipolysis stimulated lipoprotein receptor	BC004672	no expression

Family with sequence similarity 187, member B (Fam187b)	NM_175240	no expression
Leucine rich repeat and fibronectin type III domain containing 4 (Lrfn4)	NM_153388	no expression
Leucine rich repeat and fibronectin type III domain containing 2 (Lrfn2)	NM_027452	no expression
Adhesion G protein-coupled receptor A2 (Adgra2)	NM_054044	no expression
G protein-coupled receptor 125	BC052391	no expression
Receptor tyrosine kinase-like orphan receptor 1 (ROR1)	AB010383	no expression
Receptor tyrosine kinase-like orphan receptor 2 (ROR2)	NM_013846	no expression
Interleukin 1 receptor accessory protein (IL1RAP)	NM_008364	no expression
Leucine rich repeat containing 4C (Lrrc4c)	NM_001289744	ubiquitous expression (very weak)
Neurotrimin	BC023307	ubiquitous expression (very weak)
Neuronal growth regulator 1	AK035218	ubiquitous expression (very weak)
Limbic system-associated membrane protein (Lsamp)	NM_175548	no expression
LgLON family member 5 (lgln5)	NM_001164518	ubiquitous expression (very weak)
Similar to opioid binding protein/cell adhesion molecule precursor OBCAM (Opcml)	XM_284477	ubiquitous expression
Intercellular adhesion molecule 5, Telencephalin (ICAM5)	NM_008319	no expression
Semaphorin 3B	XM_203212	no expression
Semaphorin 4B	XM_133534	no expression
Triple functional domain (PTPRF interacting)	BC051169	ubiquitous expression (very sparse)
Receptor tyrosine kinase (DTK)	U18933	no expression
AXL receptor tyrosine kinase	BC050914	no expression
Obscurin, cytoskeletal calmodulin and titin-interacting RhoGEF	BC046431	no expression
c-fms proto-oncogene	X06368	no expression
Kinase insert domain protein receptor (KDR)	NM_010612	no expression
Deleted in colorectal carcinoma (DCC)	NM_007831	no expression
Brain tumor-associated protein (MBAG1)	AF300458	ubiquitous expression (very weak)
Neuronal growth regulator 1 (Negr1)	NM_177274	no expression
MPTP delta	D13905	no expression
Protein tyrosine phosphatase, receptor type, A (PTPRA)	BC050930	no expression

Ftp-1	D88187	no expression
Protein tyrosine phosphatase, receptor type, M (PTPRM)	NM_008984	no expression
Protein tyrosine phosphatase, receptor type, T (PTPRT)	NM_021464	ubiquitous expression (strong in superficial layer)
DBA/2J protein tyrosine phosphatase, receptor type, deltaA (Ptpd)	AF326560	no expression
Tyrosine phosphatase LAR (Ptpf)	AF300943	no expression
Protein tyrosine phosphatase, receptor type, K (Ptpk)	NM_008983	no expression
Protein tyrosine phosphatase PTPT9	D28530	no expression
FMS-like tyrosine kinase 1 (Flt1)	NM_010228	no expression
Flt3 mRNA for tyrosine kinase receptor of the PDGF	X59398	no expression
Tyr kinase receptor 1	AK052413	no expression
Tek	X67553	no expression
Protein tyrosine kinase 7 (Ptk7)	NM_175168	no expression
Chondroadherin	BC012672	no expression
Transmembrane protein AMIGO	AY237008	no expression
Transmembrane protein AMIGO 2	AY237006	no expression
Transmembrane protein AMIGO 3	AY237004	no expression
Vasorin	BC050274	no expression
Leucine rich repeat and Ig domain containing 2 (Lingo2)	NM_175516	no expression
Leucine-rich repeat, immunoglobulin-like and transmembrane domains 1 (Lrit1)	BC032270	no expression
Leucine-rich repeat, immunoglobulin-like and transmembrane domains 3 (Lrit3)	NM_001205102	no expression
Leucine-rich repeat, immunoglobulin-like and transmembrane domains 2 (Lrit2)	NM_173418	no expression
Immunoglobulin superfamily containing leucine-rich repeat (Islr)	AB024539	no expression
Leucine rich repeat and fibronectin type III domain containing 1 (Lrfn1)	NM_030562	no expression
Leucine-rich repeats and immunoglobulin-like domains 1 (Lrig-1)	NM_008377	no expression
Leucine-rich-repeat protein (NLRP-1)	D45913	deep layer (very weak expression)

Leucine rich repeat protein 2, neuronal (Lrrn2)	NM_010732	no expression
Leucine rich repeat protein 3, neuronal (Lrrn3)	XM_126894	no expression
Leucine rich repeat and Ig domain containing 1	BC052384	ubiquitous expression (strong in deep layer)
Hypothetical leucine-rich repeat containing protein	AK040916	no expression
Leucine rich repeat containing 4B (Lrrc4b)	NM_198250	no expression
Leucine rich repeat and fibronectin type III domain containing 5	AK083920	ubiquitous expression
Leucine-rich repeats and immunoglobulin-like domains 2 (Lrig2)	NM_001025067	no expression
Peroxidasin homolog	NM_181395	no expression
Immunoglobulin superfamily containing leucine-rich repeat 2 (Islr2)	NM_177193	ubiquitous expression
RIKEN, clone:6430402H13	AK078176	no expression
V-set and immunoglobulin domain containing 10 (Vsig10)	NM_001033311	no expression
RIKEN 2210407G14	NM_028217	no expression
Roundabout homolog 3 (Robo3)	NM_001164767	no expression
RIKEN 8030485G08	AK078783	no expression
Adhesion G protein-coupled receptor F5 (Adgrf5)	NM_001081178	no expression
Immunoglobulin superfamily, member 8 (IGSF#8)	BC026633	no expression
Hemicentin 1	NM_001024720	no expression
Similar to mucosa associated lymphoid tissue lymphoma translocation gene 1	AK045200	no expression
Differentiation antigen (CD22)	L16928	no expression
HEPACAM family member 2 (Hepacam2)	NM_178899	no expression
Hepatitis virus receptor	M77196	no expression
SPEG complex locus	BC048698	no expression
Platelet/endothelial cell adhesion molecule 1 (Pecam1)	NM_008816	no expression
Secreted and transmembrane 1A	BC010462	no expression
Hypothetical Microbodies C-terminal targeting signal containing protein	AK045585	no expression
Alpha-1-B glycoprotein (A1bg)	NM_001081067	no expression
Hypothetical Immunoglobulin subtype containing protein	AK034938	no expression

Immunoglobulin superfamily, member 10 (Igsf10)	NM_001162884	no expression
Lymphocyte antigen 9 (Ly9)	NM_008534	no expression
Basigin	Y16256	no expression
Neuroplastin (Nptn)	NM_009145	no expression
Hypothetical Immunoglobulin and major histocompatibility complex domain containing protein	AK053685	no expression
V-set immunoregulatory receptor (Vsir)	NM_028732	no expression
F2 alpha prostaglandin regulatory protein (FPRP)	AF152344	no expression
Immunoglobulin superfamily, member 3 (Igsf3)	NM_207205	no expression
Embigin	BC014858	no expression
Nexilin	NM_199465	no expression
Myelin protein zero-like 2 (Mpzl2)	NM_007962	no expression
Sodium channel, voltage-gated type III, beta (Scn3b)	NM_178227	no expression
Adhesion molecule, interacts with CXADR antigen 1	BC050133	no expression
Immunoglobulin-like receptor PIRA1	U96682	no expression
Adipocyte-specific protein 3 (ASP3)	AB040488	no expression
V-set and transmembrane domain containing 2B (Vstm2b)	NM_021387	no expression
Immunoglobulin-like domain containing receptor 1 (Ildr1)	NM_134109	no expression
Fc receptor-like S, scavenger receptor (Fcrls)	NM_030707	no expression
Collagen, type XXV, alpha 1 (Col25a1)	NM_001244952	ubiquitous expression

3. Neuropeptides/ Calcium Binding Proteins

Annotation	Gene ID # or Antibody Information	Expression pattern at P10
Calbindin	Rabbit (Swant, CB-38a)	by IHC (ubiquitous expression)
Calretinin	Mouse (Millipore, MAB1568)	by IHC (no soma expression)
Cholecystokinin (Cck)	NM_031161	by ISH (ubiquitous expression)
Corticotropin releasing hormone (Crh)	NM_205769	by ISH (no expression)
Neuropeptide Y (NPY)	Rabbit (Bachem, T-4069)	by IHC (no expression)

B. Primer sequences for in situ probes**1. Transcription Factors**

Annotation	Forward Primer	Reverse Primer
Pou domain, class 3, transcription factor 3 (Pou3f3)	-	-
Brain-specific homeobox/POU domain protein 3a (Brn3a)	-	-
Diencephalon/mesencephalon homeobox 1 (Dmbx1)	ATCATCTTGGAGGCCCGC	AGGTTTTCAATGCTCGTG
Meis homeobox 2 (Meis2)	-	-
Orthodenticle homolog 2 (Otx2)	TCCAGCTCGGGAAGTGAG	AGGCCATGACCTTCCCTC
T-box brain gene 1 (Tbr1)	CGCACTCGCTCTTTCCTTG	CACCTGCACAGACCAGTAATG
Transducin-like enhancer of split 4 (Tle4)	-	-

2. Cell Surface Molecules

Annotation	Forward Primer	Reverse Primer
Contactin 2	TACAGCAACGATAGCATCCATCCC	GAGCGTGACCAATGTCTTCAGGTA
Neighbor of Punc e11 protein (Nope)	TCGGTGGAAGAAGCCAGACTTTAC	GTGCACATCCAAGGAGTCTGAGAA
Immunoglobulin superfamily, DCC subclass, member 3	ACGGACGATGAGAGGTACACACTA	TCTCAGCCACACATTGGTAGATGG
Protogenin homolog	ACCAGATCCTTCTACATGCCAACC	ATTGTACAGTGGTCTCTCCCAAGC
Immunoglobulin superfamily member 9 (IGSF9)	ATGATTTGGTGTCTCCGTCTGACC	TTCCAAGTCACATAAGGCTGAGGG
Cell adhesion molecule-related/down-regulated by oncogenes (Cdon)	AAGCTGAGGTGCGCTATAAGATCC	GGCTGTGCGTTATGAAACCAGGTG
Cdon binding protein (Boc)	GCAGGACCTTACATCACCTTCACT	TGTGTACTGGCACGAAGAAGACAG
Leucine rich repeat and fibronectin type III domain containing 1 (Lrfn1)	CGCCTATGATTTGTGTGTGTTGGC	CGTCGAAGGAATAGCGTTGTTGTG
Obscurin-like 1 (Obsl1)	TGCCCTCACTATCCAAGAAAGCTC	TGAAGTAGGCACGTTTCATCTCCTG
Cell adhesion molecule 1 (Cadm1)	TCGATATCCAGAAAGACACGGCAG	TCCGAATGAGCCTTTCCCACTATG
Cell adhesion molecule 4 (Cadm4)	AAGGACGACGGTGGTATTGTCATC	CTTCTTTCCGTTTGTGTCCATCGC

Cell adhesion molecule 2 (Cadm2)	GAAGGGACCATGATTTGGAAACGC	AAGGTCTTTCGGTTAGCATCCTCC
Cell adhesion molecule 3 (Cadm3)	CTCAGCATCAGCATCAGCAATGTG	GTAGGCTGTATAGCTGCCCATGTT
Poliovirus receptor-related 1	CAGATGTGAAGCTCACGTGCAAAG	AAGTCCAGCTGTTTCAGGGTCATAC
Poliovirus receptor-related 2	TCCAGAAGTATCCATCTCCGGCTA	AAGGTGAAGAGTTGAGAGGGCATC
Poliovirus receptor-related 3	CAGCCAATACAAGCTGTTTCCCAC	GTCTGCAAAGGCAAGTGTTTCAGTC
Poliovirus receptor-related 4	TCACTTCAGAGTTCATCTGGTGC	AGCAGCTACTGTTGTCCTTGAGAC
Nephrin (Nphs1)	AAGAGAGAAGACAATGGCCTGTCC	CGGTAGAAAGAGCTCACGGTTTCA
Kin of IRRE like 2	GGAGAGAAGGTGACTTTCCTGTGT	TGTAGCACAGAAATAAGGCCAGGG
NEPH1	AACTTGGAGATCACAGATGCCGAG	TAAACCTCACAAGACACAGGCTCC
Kin of IRRE like 3 (Kirrel 3)	CAAGTCTACTCCTTCAGCCAGCAA	TGACGATGTTGTCCTCCAATACCG
Endothelial cell-selective adhesion molecule (Esam)	GCCTCAACAAATTGGAAGCGGTAG	TAAGGCTGGTCCAAAGAAGACCTG
Immunoglobulin superfamily member 11 (IGSF11)	CTTCTGCTCCACAATGCCAAATCC	ACTGCATTGCCAGAGAAAGACTGG
Junctional adhesion molecule (JAM)	TGATCCTGGGCTCTTTGGTACAAG	ATGGCTGTCCCATATCCATTCTGG
Vascular endothelial junction-associated molecule	AAGACCACCGTCAAGAAGTCACAG	GCCAAGGCCACATACAGAAATCAC
Junctional cell adhesion molecule 3 (JAM3)	TGAGGTCGTTGCTCTAAATGACCG	TTTGTGTCTGAAGTCACCCTCCTC
Cell surface protein MCAR	ACGAGTAACGATGTCAAGTCTGGC	TCTCTTCTCTGCGTTTCTGTGAC
SLAM family member 9	CAACGCCCAAGTCAACTTGAAGAC	TCCCTAGAGCCTGAAACAAAGCTC
16-domain form of sialoadhesin	AGACTTCTATGCTAATGTGGCCCG	CTGTGCCTTCACGCAGTGTATTTG
folliculin-like 4 (Fstl4)	TGTACATCACCAAGGTGACCACAG	ATGCCATCCTCAGCGAAGACATAG
CXADR-like membrane protein (CLMP)	TGCTCACCGATAATGAAGGGAACC	CATGCCAATGCTCTGCACATACTG
Similar to microfibril-associated glycoprotein 3 precursor	TCTCACGGTGGATCAGTATGGAGA	AATCTCCACCAGGAGAGTTGCTTC
V-set and immunoglobulin domain containing 2 (Vsig2)	ACCCACCAGATTTCTACCCAACG	AGCTCTTTGCTATGATCGGCTCTC
Immunoglobulin superfamily, member 1 (Igsf1)	AGAAGCCCATCTGGCTCAACTAAG	CCATCACCAATGCCACTGAAATG
MMAC8	TGAATCCCTGAGTGTGTCATGTCG	TCTGGATGCCTATCAGCTTTGACC
CD83 antigen	CTCCAGCTCCTGTTTCTAGGCTG	ACCGTTTCTGTCTTAGGAAGGGTC
S-glycerin/MUC18	TGAGTGCACGCCTAGTTAAGGAAG	TCTCAGCCACTCAAACCTCAAGGTC
Lipolysis stimulated lipoprotein receptor	ACAGGAAATGCTGACCTGACCTTC	AAGATACGCTCCCATCCACTTCAC
Family with sequence similarity 187, member B (Fam187b)	TACTCTGTGGCTGGTTGGTCTTTC	ATAGCAGTAGCCTAGACGTTTGCG
Leucine rich repeat and fibronectin type III domain containing 4 (Lrfn4)	ATGCAGGAGCCTATACCTGCATTG	AAGGCCACAGTGAAGACCAGTAAG

Leucine rich repeat and fibronectin type III domain containing 2 (Lrfn2)	GCACTGCAATTGTGAGCTTCTCTG	AGATGTGGTGGTAACATCGGACAC
Adhesion G protein-coupled receptor A2 (Adgra2)	ACTGAGTTTCTGACCTGTGACTGC	ACTGTAAACAGGACTGGTAAGCCG
G protein-coupled receptor 125	TGGACCTGACGAACAACCGAATAG	TGGGACTCATCGGTCTCAACAATG
Receptor tyrosine kinase-like orphan receptor 1 (ROR1)	TGTCTACCACTGGTGTCTTGTGTTG	TGGGTACTGAGAATTCATGGCTG
Receptor tyrosine kinase-like orphan receptor 2 (ROR2)	TTGTCCACAGTGAGGTTTCATGGAG	CTGAGATCCTCACGTTTCAGCTTGT
Interleukin 1 receptor accessory protein (IL1RAP)	GCTGCCAAGGTGAAACAGAAAGTC	CCTGCCCTGAGGATACTTGGATTT
Leucine rich repeat containing 4C (Lrrc4c)	TTCGGGAAATCCCTAACCTCACAC	TAGAAGCCCGACATTTTCAGCTCAG
Neurotrimin	ACCCAGTACAGCATTGAGATCCAG	CCCTTCTTTCTTCGACCAGTCTT
Neuronal growth regulator 1	TGTAACAGATGATGGCCCGTACAC	CACTGTGAGGATGGATCTTGTGCT
Limbic system-associated membrane protein (Lsamp)	GTCAGGCAAATATGAGTGCAAGGC	ACCATCTCCACTCTGCTTTCAGTG
LgLON family member 5 (lgln5)	TGCCCGTATTGTGAACATCTCCTC	TGCGCTGTACTGAATGGTGTCTAC
Similar to opioid binding protein/cell adhesion molecule precursor OBCAM (Opcml)	TATTCCTTGTACCCACAGGAGTGC	TGGTCCTGAGATGGCGTATTGATG
Intercellular adhesion molecule 5, Telencephalin (ICAM5)	TCTGACTTTGAGTGAGCCAGAAGC	CATATTCCACGGTCAGGGTCACAT
Semaphorin 3B	GAATGGCGTGAAGAATGCAACTGG	AACTCCAGGTAAGTACTGAGCACACAAG
Semaphorin 4B	ATCAAGATCCTCCTGCCACTCAAC	AGGGTGAAGACATCTTGTAGCACG
Triple functional domain (PTPRF interacting)	TCTACAGTGAAGTGGCTGAGCTTG	CACACGAATTCTTTGGCCTTCTGG
Receptor tyrosine kinase (DTK)	ACCACAGTAACAACGATCTCCAGC	ATGGTCATGAGAAGACACCACCAG
AXL receptor tyrosine kinase	AACTCCAGGCCTGAACAAGACATC	TGTCACAGACACAGTCAGGTTAGC
Obscurin, cytoskeletal calmodulin and titin-interacting RhoGEF	TTAAGAGACTGCACCACCCACATC	AATGAACTCTGCAGGAAGGCTACG
c-fms proto-oncogene	AGAGGTCAGTGTTACATGGATGCC	AACTCCCCTTCTCATTGTAGGGC
Kinase insert domain protein receptor (KDR)	CATTGCCTGGTCAAACAGCTCATC	GCAAGTCGCTGTCTTGTCAATTCC
Deleted in colorectal carcinoma (DCC)	AACTTCTGCTCCCAAGGATCTGAC	AGGTTGCTGTTCTTCTGAGGAGTG
Brain tumor-associated protein (MBAG1)	TTCCCTCGTGGAACTCAACTTAGC	GTGTCTATGAGCAGCACACGAGAA
Neuronal growth regulator 1 (Negr1)	TGTAACAGATGATGGCCCGTACAC	TCACTGTGAGGATGGATCTTGTGC
MPTP delta	TAGTTGTACCAGCCCAAGTTCCAC	ACCATCTCCTTTGGTGGTGTAAAGC
Protein tyrosine phosphatase, receptor type, A (PTPRA)	AAACATCCTGCCCTATGACCACTC	GGTTACAGGCCTTCACCTTCTTGA
Ftp-1	ATAACCACCAACATCTCAGCTCCC	GCTTTCGTCATGTTCACTGGCTTC
Protein tyrosine phosphatase, receptor type, M (PTPRM)	CCCCTGCATCGACTTTCCTACTACT	TGCGTAGTTTGATATCCCGACACC
Protein tyrosine phosphatase, receptor type, T (PTPRT)	AACTCCAGCCAGATCAAAGACGAG	ACTTTGAGCAGAGAGCGCTTAGAG

DBA/2J protein tyrosine phosphatase, receptor type, deltaA (Ptprd)	TCAGACCTCAGAACAAGCACCATC	ACGGAAGTAGTACAGGCTGTTTGG
Tyrosine phosphatase LAR (Ptprf)	CCCAAGAACCGCTATGCAGATGTC	GGCCATAGATGTCAACCGTCTTCT
Protein tyrosine phosphatase, receptor type, K (Ptprk)	TGACTTTGAGTGGGTCCATGTCAG	GCACTGAAATGTAGCATTCTGCCC
Protein tyrosine phosphatase PTPT9	ATGAGAACGTGTACGAGTGTGTGG	AGTGATATTCACATTCACCGGG
FMS-like tyrosine kinase 1 (Flt1)	TGTCTGCTTCTCACAGGATATGGC	ATAGTTTGTCTGGTACAGGTGCC
Flt3 mRNA for tyrosine kinase receptor of the PDGF	AACCCTTGTGGATCAGGTGTAAGG	AAACTCCTTCTGGGATTCCTCCG
Tyr kinase receptor 1	ATCAAGAAGGACGGGCTCAAGATG	ACGCTGTAGTTGAGGGACTCAATG
Tek	GACCATGAAGATGCGTCAACAAGC	TCTCTTCATTGGTACAGTGGCACC
Protein tyrosine kinase 7 (Ptk7)	CTTAGTCGTGGACAAGCCAGTGAT	TTCAACTTCCCGAACATCTCCACC
Chondroadherin	AGTCTGGTCTTTCTTGCCATCCTC	GGAACTTGGCTAGGTTCTCCACAT
Transmembrane protein AMIGO	ATCTCTCGCTTTCCTGTGGAAGTG	ATGGCGTAACAGGTATACACACC
Transmembrane protein AMIGO 2	ATCGAATCCCTTCCATACCGATGC	GCTGCCTGTTTCATTGCGATAACAAG
Transmembrane protein AMIGO 3	TTCAGACTTGGAGGATGTTCTGCC	ATGTTTCAGCCAGTTGGAGGAGAG
Vasorin	TACCGCCAATGTAGAGGCATTGAG	TGTGGGTCCCTGATAGTAGACCT
Leucine rich repeat and Ig domain containing 2 (Lingo2)	ATCTCTTTAACCTGCGTTCCTCC	GGTTGGTGTGGTATTGAAAGGG
Leucine-rich repeat, immunoglobulin-like and transmembrane domains 1 (Lrit1)	TGCACACTTCTGGAGAACCTTAC	GTGGCTCAGTGACAATCAAGGAGA
Leucine-rich repeat, immunoglobulin-like and transmembrane domains 3 (Lrit3)	AGTGGCCAGCATAGAAACCAGTAG	TTGGTAGCTGACATCATCACGGAC
Leucine-rich repeat, immunoglobulin-like and transmembrane domains 2 (Lrit2)	ATTCTGTCCCAGAACTGGCTCTTC	GCGAGGCCAACACATCAAATTCTC
Immunoglobulin superfamily containing leucine-rich repeat (Islr)	CAATGACAACCCTTTCGACTGCAC	GTGGCCAATGCCACATTTACAGAG
Leucine rich repeat and fibronectin type III domain containing 1 (Lrfn1)	ACTGACCGCTATTTCTGGTCCATC	GCAGAGCTGTTGTATTGCACTTGG
Leucine-rich repeats and immunoglobulin-like domains 1 (Lrig-1)	CAGCTGCTGGTTGTTTCAGAATGTG	TGCAGTCACTACATACAGCAGAGC
Leucine-rich-repeat protein (NLRR-1)	AGGAGGTCCTAATCCAGGACTCAA	TCATGAACATCTACTGGCACCCTG
Leucine rich repeat protein 2, neuronal (Lrrn2)	ATGTGCAGGAGACACCCCATATC	GCGGAACTTCAGCAATGTTGAGAC
Leucine rich repeat protein 3, neuronal (Lrrn3)	AACCTCACGGAATACCAGACGAC	ACATCCAGGTCAGAAGGAAAGCTC
Leucine rich repeat and Ig domain containing 1	TTGACCAAGCTGGACATCAGTGAG	TAGTTGAGCCCACGAAAGGCATAG
Hypothetical leucine-rich repeat containing protein	TAGCCAATAGCACCAGTTGTGACC	AAGACCAGAACAGAAGCGACGATG

Leucine rich repeat containing 4B (Lrrc4b)	CACCTCAATCACCACCACTACGTT	TGACGCAAACCTCCCTTCAGTATC
Leucine rich repeat and fibronectin type III domain containing 5	ATCCACTAAGTCAGGCTCGAATGC	CATGGCTTGTTTGGACATGGACTG
Leucine-rich repeats and immunoglobulin-like domains 2 (Lrig2)	GCCTTGATGAATCTGCCTTTGTGG	CAATTGTGCTTTCAGGGTGTGTCC
Peroxidasin homolog	ATAGAAACGCTGGACCCTGAATCC	TCCAGCAAGTTTAAGCGAGAGTCC
Immunoglobulin superfamily containing leucine-rich repeat 2 (Islr2)	AACCCTACCGTTTAATCCTGAGGC	AATTCGGCCCCTCCTAGAAATCC
RIKEN, clone:6430402H13	TCTTCCTCACCAACATCACACTGG	TCAGCAATGGATCTCATAGGCCAC
V-set and immunoglobulin domain containing 10 (Vsig10)	TTCCTGGTCTCCTTCAATTCCAGC	CAGTGTTCAGCTTTGAGTTCCC
RIKEN 2210407G14	TGCACTCATGAACAGGGAGACTTC	TTGATGCTCCCGTCACTACTTTCG
Roundabout homolog 3 (Robo3)	ACTGGTACTTGGCTCTTCTGTGTG	TTTGAACAGGCTCAGAGACAGGAC
RIKEN 8030485G08	ACACGTGTGAGATGTCCAATACCC	AGTGATCCATTAAAGCGGTCCCTCG
Adhesion G protein-coupled receptor F5 (Adgrf5)	AGCAAGAGAAGAGCAGCCTATTCC	AAGTCTGCAGAGAGAGCACGTTAC
Immunoglobulin superfamily, member 8 (IGSF#8)	TCCCTGCTATGCAACATCTCTGTG	ACAGTCAACACCTGCAAGAAGTGG
Hemicentin 1	AGCGAGCCAGAGGAAGTGTTATTG	AATGGTGTGGTTCCACGTATAGGG
Similar to mucosa associated lymphoid tissue lymphoma translocation gene 1	ACAGTCACAGAAGTGGAGCGACTTC	TCCACATATGGAACCGTGTAGTGC
Differentiation antigen (CD22)	GCCAGTCCAAGTGCAACAAACTAC	TGCACGAGACTCCCATTCTTCTTC
HEPACAM family member 2 (Hepacam2)	TGGTTCCTGACTTGGAAATACCAGC	GCAACTTCTAAATGAGGCCCATGC
Hepatitis virus receptor	ATGTCACGAGGAATGACACAGGAC	CTGACGCTGACTGGATTTCGAGATT
SPEG complex locus	ACGTTCAAGGTCTCACTCATGGAC	TCACAGACACACAGACGGACAAAC
Platelet/endothelial cell adhesion molecule 1 (Pecam1)	CCAATGACCCAGCAACATTCACAG	TCTCGCTGTTGGAGTTCAGAAGTG
Secreted and transmembrane 1A	GCACAGCTTGTGATCAAAGACACC	CAGCAGACTGAACAAAGCCATGTG
Hypothetical Microbodies C-terminal targeting signal containing protein	TGTTGATGACACTGGACATCCCTG	TTACCAACTTTGGAGGAAGGACCC
Alpha-1-B glycoprotein (A1bg)	GCTACCGGATGCACAAATACATGC	TAAGCTGAGGTGCTTCTTGTGGAG
Hypothetical Immunoglobulin subtype containing protein	TGTCACTGTACATTCCACAGTCGG	TCATCTCAATCTCCTCAGTGGTGC
Immunoglobulin superfamily, member 10 (Igsf10)	TGGTGGTGACTACTTATGTGTGGC	TACTTCCCAGAGTCAAGCGGTTTC
Lymphocyte antigen 9 (Ly9)	GTGCACATGATGAACGGAATCTGC	ATGGGTGACCAAGTCATACACCTG
Basigin	AGAAGCGAGATCAATGTGGAAGGG	TTCCTCTGGCGTACATTCTTGTC
Neuroplastin (Nptn)	TGTAAGTCAAGTCAGTTGGCTACC	GGTCATTGTGGTGTGCTCACTTG

Hypothetical Immunoglobulin and major histocompatibility complex domain containing protein	AGTCTGTGGTGCTCTCAATGTCAC	GGTGAAGAGCAGAACACTGAGGAT
V-set immunoregulatory receptor (Vsir)	TCCAGCAGTCTCTTTCTGCTCTTG	GCTGTCACTGTCCTGCTCATTAGA
F2 alpha prostaglandin regulatory protein (FPRP)	TACTATCTTTGCCTTGTGGCCCTC	GTATTCCTGCAGCAAAGAAAGGC
Immunoglobulin superfamily, member 3 (Igsf3)	TAAGGTGGCCAAAGAGAGTGATGG	AAGTCAAAGGAGTCGCTGTAGGTG
Embigin	GGGCAACACCTTAACCAGTCAGTA	TCTTTCCCAGCATCTGGGTCATTC
Nexilin	AAGGCCTGCAAAGAAGAGTGAGTC	CGCTGCTGAGCCTTTATTGTTGAC
Myelin protein zero-like 2 (Mpzl2)	TGACGACAATGGGACATACACCTG	ACCGTAGCAACGAAGGTAAGTCTG
Sodium channel, voltage-gated type III, beta (Scn3b)	GTCTGCTTCCCTGTGTGTGTAGAA	TGCTGTACATCACCTCAAGTCAC
Adhesion molecule, interacts with CXADR antigen 1	ATCCAGAGCACAGAAGAGAAACGG	ATTCATGGTCATGTAGGTGCCCTC
Immunoglobulin-like receptor PIRA1	AGGAGGAAACATGACACTCCACTG	ACTGTGTGGTTAGGCTTCACTGAG
Adipocyte-specific protein 3 (ASP3)	TATTAAGTCGCGCATACTGGGACG	ACTCCACCATGTTACATCCTTCC
V-set and transmembrane domain containing 2B (Vstm2b)	TTACTCGCTGGAGATTCAGTGGTG	TGCTAACAAGAGCAGAGACAGCAG
Immunoglobulin-like domain containing receptor 1 (Ildr1)	TTACTCTGTTTGCCTCCGTTACCC	AGATGAAACTTGGGAGCTCCTGTC
Fc receptor-like S, scavenger receptor (Fcrls)	CTTGCTTGTCTGTGGCTAAAGGC	TGTCCCAGCCATCATCACATACAG
Collagen, type XXV, alpha 1 (Col25a1)	GGTGATAAGGGAGAACAAGGTG	ATGGAGGTTGCCATTGTAGTCTATG

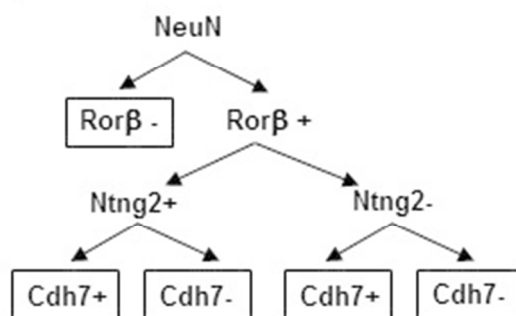
3. Neuropeptides/Calcium Binding Proteins

Annotation	Forward Primer	Reverse Primer
Calbindin	-	-
Calretinin	-	-
Cholecystokinin (Cck)	ATGAAGAGCGGCGTATGTCTGTGC	CTACGATGGGTATTCGTAGTCCTC
Corticotropin releasing hormone (Crh)	ATGCGGCTGCGGCTGCTGGTG	TCATTTCGATAATCTCCATCAG
Neuropeptide Y (NPY)	-	-

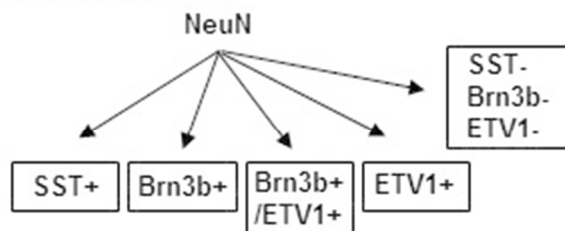
Supplementary table. The list of genes that were initially screened but not further pursued.

A. Summary of results from *in situ* hybridization (ISH) or immunohistochemistry (IHC). The table also contains gene ID number or antibody information. **B.** Primer sequences to generate *in situ* probes are indicated when ISH was conducted to examine gene expression.

A. Layer 1



B. Layers 2, 3 and 4



105x140mm (72 x 72 DPI)

Using double labeling (either *in situ* hybridization or immunostaining), the authors discover that mouse superficial superior colliculus consists of at least 10 different neuronal types and 4 different layers. Each neuronal type or distinct layer has unique molecular features.