Melitta Schachner

List of Publications by Year in descending order

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46918 40881 9,355 122 47 93 citations h-index g-index papers 125 125 125 8659 docs citations times ranked citing authors all docs

#	Article	IF	Citations
1	Neural recognition molecules of the immunoglobulin superfamily: signaling transducers of axon guidance and neuronal migration. Nature Neuroscience, 2007, 10, 19-26.	7.1	734
2	Neural adhesion molecule L1 as a member of the immunoglobulin superfamily with binding domains similar to fibronectin. Nature, 1988, 334, 701-703.	13.7	645
3	The J1 glycoprotein—a novel nervous system cell adhesion molecule of the L2/HNK-1 family. Nature, 1985, 316, 146-148.	13.7	587
4	Glycans and neural cell interactions. Nature Reviews Neuroscience, 2004, 5, 195-208.	4.9	475
5	Disruption of the mouse L1 gene leads to malformations of the nervous system. Nature Genetics, 1997, 17, 346-349.	9.4	462
6	Extracellular matrix molecules and synaptic plasticity. Nature Reviews Neuroscience, 2003, 4, 456-468.	4.9	459
7	The dual role of the extracellular matrix in synaptic plasticity and homeostasis. Nature Reviews Neuroscience, 2010, 11, 735-746.	4.9	447
8	Neural recognition molecules and synaptic plasticity. Current Opinion in Cell Biology, 1997, 9, 627-634.	2.6	260
9	Synapsin I Is an Oligomannose-Carrying Glycoprotein, Acts As an Oligomannose-Binding Lectin, and Promotes Neurite Outgrowth and Neuronal Survival When Released via Glia-Derived Exosomes. Journal of Neuroscience, 2011, 31, 7275-7290.	1.7	244
10	Pericyte-like spreading by disseminated cancer cells activates YAP and MRTF for metastatic colonization. Nature Cell Biology, 2018, 20, 966-978.	4.6	186
11	Neural Cell Adhesion Molecules of the Immunoglobulin Superfamily Regulate Synapse Formation, Maintenance, and Function. Trends in Neurosciences, 2017, 40, 295-308.	4.2	180
12	Synaptic Strength as a Function of Post- versus Presynaptic Expression of the Neural Cell Adhesion Molecule NCAM. Neuron, 2000, 26, 207-217.	3.8	161
13	L1.1 Is Involved in Spinal Cord Regeneration in Adult Zebrafish. Journal of Neuroscience, 2004, 24, 7837-7842.	1.7	156
14	Prevention of neuronal cell death by neural adhesion molecules L1 and CHL1., 1999, 38, 428-439.		154
15	Improvement of neuronal cell survival by astrocyteâ€derived exosomes under hypoxic and ischemic conditions depends on prion protein. Glia, 2016, 64, 896-910.	2.5	143
16	Bergmann Glia and the Recognition Molecule CHL1 Organize GABAergic Axons and Direct Innervation of Purkinje Cell Dendrites. PLoS Biology, 2008, 6, e103.	2.6	120
17	The Neural Recognition Molecule L1 Is a Sialic Acid-binding Lectin for CD24, Which Induces Promotion and Inhibition of Neurite Outgrowth. Journal of Biological Chemistry, 2001, 276, 21656-21663.	1.6	114
18	The close homologue of the neural adhesion molecule L1 (CHL1): patterns of expression and promotion of neurite outgrowth by heterophilic interactions. European Journal of Neuroscience, 1999, 11, 813-826.	1.2	112

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19	Ectodomain Shedding of the Neural Recognition Molecule CHL1 by the Metalloprotease-disintegrin ADAM8 Promotes Neurite Outgrowth and Suppresses Neuronal Cell Death. Journal of Biological Chemistry, 2004, 279, 16083-16090.	1.6	111
20	Close Homolog of L1 Modulates Area-Specific Neuronal Positioning and Dendrite Orientation in the Cerebral Cortex. Neuron, 2004, 44, 423-437.	3.8	104
21	Structural Features of a Close Homologue of L1 (CHL1)in the Mouse: A New Member of the L1 Family of Neural Recognition Molecules. European Journal of Neuroscience, 1996, 8, 1613-1629.	1.2	101
22	Soluble Cell Adhesion Molecule L1-Fc Promotes Locomotor Recovery in Rats after Spinal Cord Injury. Journal of Neurotrauma, 2003, 20, 871-882.	1.7	98
23	Close Homolog of L1 and Neuropilin 1 Mediate Guidance of Thalamocortical Axons at the Ventral Telencephalon. Journal of Neuroscience, 2007, 27, 13667-13679.	1.7	95
24	Glial Scar Expression of CHL1, the Close Homolog of the Adhesion Molecule L1, Limits Recovery after Spinal Cord Injury. Journal of Neuroscience, 2007, 27, 7222-7233.	1.7	95
25	Recognition molecules and neural repair. Journal of Neurochemistry, 2007, 101, 865-882.	2.1	95
26	Decreased Anxiety, Altered Place Learning, and Increased CA1 Basal Excitatory Synaptic Transmission in Mice with Conditional Ablation of the Neural Cell Adhesion Molecule L1. Journal of Neuroscience, 2003, 23, 10419-10432.	1.7	94
27	Signal transduction pathways implicated in neural recognition molecule L1 triggered neuroprotection and neuritogenesis. Journal of Neurochemistry, 2005, 92, 1463-1476.	2.1	94
28	Biochemical Characterization of Different Molecular Forms of the Neural Cell Adhesion Molecule L1. Journal of Neurochemistry, 1988, 50, 510-521.	2.1	92
29	The Proprotein Convertase PC5A and a Metalloprotease Are Involved in the Proteolytic Processing of the Neural Adhesion Molecule L1. Journal of Biological Chemistry, 2003, 278, 10381-10388.	1.6	90
30	Close Homolog of L1 Is an Enhancer of Integrin-mediated Cell Migration. Journal of Biological Chemistry, 2003, 278, 25024-25031.	1.6	84
31	Tenascin-R promotes assembly of the extracellular matrix of perineuronal nets via clustering of aggrecan. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20140046.	1.8	80
32	Cell Adhesion Molecule L1–Transfected Embryonic Stem Cells with Enhanced Survival Support Regrowth of Corticospinal Tract Axons in Mice after Spinal Cord Injury. Journal of Neurotrauma, 2005, 22, 896-906.	1.7	79
33	Elevated levels of neural recognition molecule L1 in the cerebrospinal fluid of patients with Alzheimer disease and other dementia syndromes. Neurobiology of Aging, 2006, 27, 1-9.	1.5	78
34	Identification of the border between fibronectin type III homologous repeats 2 and 3 of the neural cell adhesion molecule L1 as a neurite outgrowth promoting and signal transducing domain. Journal of Neurobiology, 1995, 28, 297-312.	3.7	76
35	A New Role for the Cell Adhesion Molecule L1 in Neural Precursor Cell Proliferation, Differentiation, and Transmitter-Specific Subtype Generation. Journal of Neuroscience, 2003, 23, 6638-6650.	1.7	76
36	O-glycosylation pattern of CD24 from mouse brain. Biological Chemistry, 2009, 390, 627-645.	1.2	74

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37	Isolation and Biochemical Characterization of a Neural Proteoglycan Expressing the L5 Carbohydrate Epitope. Journal of Neurochemistry, 1990, 55, 1494-1506.	2.1	72
38	Ablation of adhesion molecule L1 in mice favours Schwann cell proliferation and functional recovery after peripheral nerve injury. Brain, 2009, 132, 2180-2195.	3.7	62
39	L1 and CHL1 Cooperate in Thalamocortical Axon Targeting. Cerebral Cortex, 2011, 21, 401-412.	1.6	62
40	The gene encoding L1, a neural adhesion molecule of the immunoglobulin family, is located on the X chromosome in mouse and man. Genomics, 1990 , 7 , $587-593$.	1.3	61
41	Reduced GABAergic transmission and number of hippocampal perisomatic inhibitory synapses in juvenile mice deficient in the neural cell adhesion molecule L1. Molecular and Cellular Neurosciences, 2004, 26, 191-203.	1.0	61
42	Enhanced perisomatic inhibition and impaired long-term potentiation in the CA1 region of juvenile CHL1-deficient mice. European Journal of Neuroscience, 2006, 23, 1839-1852.	1.2	60
43	Antagonistic Effects of BACE1 and APH1B-γ-Secretase Control Axonal Guidance by Regulating Growth Cone Collapse. Cell Reports, 2015, 12, 1367-1376.	2.9	60
44	Lewis $<$ sup $>$ x $<$ sup $>$ and $\hat{I}\pm 2,3$ -Sialyl Glycans and Their Receptors TAG-1, Contactin, and L1 Mediate CD24-Dependent Neurite Outgrowth. Journal of Neuroscience, 2009, 29, 6677-6690.	1.7	56
45	Close homologue of adhesion molecule L1 promotes survival of Purkinje and granule cells and granule cells and granule cell migration during murine cerebellar development. Journal of Comparative Neurology, 2009, 513, 496-510.	0.9	55
46	Generation and Nuclear Translocation of Sumoylated Transmembrane Fragment of Cell Adhesion Molecule L1. Journal of Biological Chemistry, 2012, 287, 17161-17175.	1.6	55
47	Lentiviral Delivery of miR-133b Improves Functional Recovery After Spinal Cord Injury in Mice. Molecular Neurobiology, 2017, 54, 4659-4671.	1.9	54
48	Cellular Form of Prion Protein Inhibits Reelin-Mediated Shedding of Caspr from the Neuronal Cell Surface to Potentiate Caspr-Mediated Inhibition of Neurite Outgrowth. Journal of Neuroscience, 2010, 30, 9292-9305.	1.7	51
49	Adhesion molecule L1 binds to amyloid beta and reduces Alzheimer's disease pathology in mice. Neurobiology of Disease, 2013, 56, 104-115.	2.1	49
50	Myelin Basic Protein Cleaves Cell Adhesion Molecule L1 and Promotes Neuritogenesis and Cell Survival. Journal of Biological Chemistry, 2014, 289, 13503-13518.	1.6	48
51	Binding of the Receptor Tyrosine Kinase TrkB to the Neural Cell Adhesion Molecule (NCAM) Regulates Phosphorylation of NCAM and NCAM-dependent Neurite Outgrowth. Journal of Biological Chemistry, 2010, 285, 28959-28967.	1.6	46
52	Interaction of the Cell Adhesion Molecule CHL1 with Vitronectin, Integrins, and the Plasminogen Activator Inhibitor-2 Promotes CHL1-Induced Neurite Outgrowth and Neuronal Migration. Journal of Neuroscience, 2014, 34, 14606-14623.	1.7	45
53	Myelin Basic Protein Cleaves Cell Adhesion Molecule L1 and Improves Regeneration After Injury. Molecular Neurobiology, 2016, 53, 3360-3376.	1.9	42
54	Extracellular GAPDH binds to L1 and enhances neurite outgrowth. Molecular and Cellular Neurosciences, 2009, 41, 206-218.	1.0	41

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55	Small Molecule Agonists of Cell Adhesion Molecule L1 Mimic L1 Functions In Vivo. Molecular Neurobiology, 2016, 53, 4461-4483.	1.9	40
56	The extracellular matrix glycoprotein tenascin-C and matrix metalloproteinases modify cerebellar structural plasticity by exposure to an enriched environment. Brain Structure and Function, 2017, 222, 393-415.	1.2	40
57	Porous and Nonporous Nerve Conduits: The Effects of a Hydrogel Luminal Filler With and Without a Neurite-Promoting Moiety. Tissue Engineering - Part A, 2016, 22, 818-826.	1.6	35
58	The Interaction between Cell Adhesion Molecule L1, Matrix Metalloproteinase 14, and Adenine Nucleotide Translocator at the Plasma Membrane Regulates L1-Mediated Neurite Outgrowth of Murine Cerebellar Neurons. Journal of Neuroscience, 2012, 32, 3917-3930.	1.7	34
59	Altered expression of CHL1 by glial cells in response to optic nerve injury and intravitreal application of fibroblast growth factor-2. Journal of Neuroscience Research, 2003, 71, 835-843.	1.3	33
60	Glycomic Analysis of N-Linked Carbohydrate Epitopes from CD24 of Mouse Brain. Journal of Proteome Research, 2009, 8, 567-582.	1.8	32
61	Presynaptic NCAM Is Required for Motor Neurons to Functionally Expand Their Peripheral Field of Innervation in Partially Denervated Muscles. Journal of Neuroscience, 2014, 34, 10497-10510.	1.7	32
62	Cathepsin E generates a sumoylated intracellular fragment of the cell adhesion molecule L1 to promote neuronal and Schwann cell migration as well as myelination. Journal of Neurochemistry, 2014, 128, 713-724.	2.1	31
63	\hat{l}^2 1 Integrin-mediated Effects of Tenascin-R Domains EGFL and FN6-8 on Neural Stem/Progenitor Cell Proliferation and Differentiation in Vitro. Journal of Biological Chemistry, 2008, 283, 27927-27936.	1.6	30
64	CHL1 negatively regulates the proliferation and neuronal differentiation of neural progenitor cells through activation of the ERK1/2 MAPK pathway. Molecular and Cellular Neurosciences, 2011 , 46 , $296-307$.	1.0	30
65	Engineered N-cadherin and L1 biomimetic substrates concertedly promote neuronal differentiation, neurite extension and neuroprotection of human neural stem cells. Acta Biomaterialia, 2014, 10, 4113-4126.	4.1	29
66	Expression of glycogenes in differentiating human NT2N neurons. Downregulation of fucosyltransferase 9 leads to decreased Lewisx levels and impaired neurite outgrowth. Biochimica Et Biophysica Acta - General Subjects, 2012, 1820, 2007-2019.	1.1	28
67	Neural cell adhesion molecule L1 is required for fasciculation and routing of thalamocortical fibres and corticothalamic fibres. Neuroscience Research, 2004, 48, 471-475.	1.0	27
68	Tenascin-C deficiency protects mice from experimental autoimmune encephalomyelitis. Journal of Neuroimmunology, 2017, 302, 1-6.	1.1	27
69	Polysialic acid enters the cell nucleus attached to a fragment of the neural cell adhesion molecule NCAM to regulate the circadian rhythm in mouse brain. Molecular and Cellular Neurosciences, 2016, 74, 114-127.	1.0	26
70	Nonyloxytryptamine mimics polysialic acid and modulates neuronal and glial functions in cell culture. Journal of Neurochemistry, 2014, 128, 88-100.	2.1	25
71	The polysialic acid mimetics 5-nonyloxytryptamine and vinorelbine facilitate nervous system repair. Scientific Reports, 2016, 6, 26927.	1.6	25
72	Neural glycomics: the sweet side of nervous system functions. Cellular and Molecular Life Sciences, 2021, 78, 93-116.	2.4	25

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73	Interaction between the close homolog of L1 and serotonin receptor 2c regulates signal transduction and behavior in mice. Journal of Cell Science, 2015, 128, 4642-52.	1.2	23
74	Cell adhesion molecule L1 contributes to neuronal excitability regulating the function of voltage-gated sodium channels. Journal of Cell Science, 2016, 129, 1878-91.	1.2	23
75	The human natural killer-1 (HNK-1) glycan mimetic ursolic acid promotes functional recovery after spinal cord injury in mouse. Journal of Nutritional Biochemistry, 2018, 55, 219-228.	1.9	23
76	Close Homolog of L1 Regulates Dendritic Spine Density in the Mouse Cerebral Cortex Through Semaphorin 3B. Journal of Neuroscience, 2019, 39, 6233-6250.	1.7	23
77	Proteolytic cleavage of transmembrane cell adhesion molecule L1 by extracellular matrix molecule Reelin is important for mouse brain development. Scientific Reports, 2017, 7, 15268.	1.6	21
78	Revisiting the proteolytic processing of cell adhesion molecule L1. Journal of Neurochemistry, 2021, 157, 1102-1117.	2.1	20
79	The intracellular domain of L1 <scp>CAM</scp> binds to casein kinase 2α and is neuroprotective <i>via</i> inhibition of the tumor suppressors <scp>PTEN</scp> and p53. Journal of Neurochemistry, 2015, 133, 828-843.	2.1	19
80	The small molecule mimetic agonist trimebutine of adhesion molecule L1 contributes to functional recovery after spinal cord injury in mice. DMM Disease Models and Mechanisms, 2017, 10, 1117-1128.	1.2	19
81	A Fragment of Adhesion Molecule L1 Binds to Nuclear Receptors to Regulate Synaptic Plasticity and Motor Coordination. Molecular Neurobiology, 2018, 55, 7164-7178.	1.9	19
82	The Asparaginyl Endopeptidase Legumain Is Essential for Functional Recovery after Spinal Cord Injury in Adult Zebrafish. PLoS ONE, 2014, 9, e95098.	1.1	18
83	The Adhesion Molecule-Characteristic HNK-1 Carbohydrate Contributes to Functional Recovery After Spinal Cord Injury in Adult Zebrafish. Molecular Neurobiology, 2017, 54, 3253-3263.	1.9	18
84	A fragment of adhesion molecule L1 is imported into mitochondria and regulates mitochondrial metabolism and trafficking. Journal of Cell Science, 2018, 131, .	1.2	18
85	A Small Organic Compound Mimicking the L1 Cell Adhesion Molecule Promotes Functional Recovery after Spinal Cord Injury in Zebrafish. Molecular Neurobiology, 2018, 55, 859-878.	1.9	18
86	Phenelzine, a cell adhesion molecule L1 mimetic small organic compound, promotes functional recovery and axonal regrowth in spinal cord-injured zebrafish. Pharmacology Biochemistry and Behavior, 2018, 171, 30-38.	1.3	18
87	A fragment of cell adhesion molecule L1 reduces amyloid-β plaques in a mouse model of Alzheimer's disease. Cell Death and Disease, 2022, 13, 48.	2.7	16
88	Oriented, Multimeric Biointerfaces of the L1 Cell Adhesion Molecule: An Approach to Enhance Neuronal and Neural Stem Cell Functions on 2-D and 3-D Polymer Substrates. Biointerphases, 2012, 7, 22.	0.6	15
89	Heterozygous L1-deficient mice express an autism-like phenotype. Behavioural Brain Research, 2015, 292, 432-442.	1.2	15
90	Cell Adhesion Molecule Close Homolog of L1 (CHL1) Guides the Regrowth of Regenerating Motor Axons and Regulates Synaptic Coverage of Motor Neurons. Frontiers in Molecular Neuroscience, 2018, 11, 174.	1.4	15

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91	Cell surface sialylation and fucosylation are regulated by the cell recognition molecule L1 via PLCÎ ³ and cooperate to modulate embryonic stem cell survival and proliferation. FEBS Letters, 2009, 583, 703-710.	1.3	14
92	Kinesin-1 promotes post-Golgi trafficking of NCAM140 and NCAM180 to the cell surface. Journal of Cell Science, 2015, 128, 2816-29.	1.2	14
93	The L1 adhesion molecule normalizes neuritogenesis in Rett syndrome-derived neural precursor cells. Biochemical and Biophysical Research Communications, 2017, 494, 504-510.	1.0	14
94	Induction of clusterin Expression by Neuronal Cell Death in Zebrafish. Journal of Genetics and Genomics, 2014, 41, 583-589.	1.7	13
95	The L1 cell adhesion molecule affects protein kinase D1 activity in the cerebral cortex in a mouse model of Alzheimer's disease. Brain Research Bulletin, 2020, 162, 141-150.	1.4	13
96	The polysialic acid mimetics idarubicin and irinotecan stimulate neuronal survival and neurite outgrowth and signal via protein kinase C. Journal of Neurochemistry, 2017, 142, 392-406.	2.1	12
97	Enhanced Neuronal Survival and Neurite Outgrowth Triggered by Novel Small Organic Compounds Mimicking the LewisX Glycan. Molecular Neurobiology, 2018, 55, 8203-8215.	1.9	12
98	Impact of Depletion of Microglia/Macrophages on Regeneration after Spinal Cord Injury. Neuroscience, 2021, 459, 129-141.	1.1	12
99	ldentification and validation of a Lewisx glycomimetic peptide. European Journal of Cell Biology, 2010, 89, 77-86.	1.6	11
100	A mimetic peptide of $\hat{l}\pm 2$,6-sialyllactose promotes neuritogenesis. Neural Regeneration Research, 2020, 15, 1058.	1.6	11
101	Function-Triggering Antibodies to the Adhesion Molecule L1 Enhance Recovery after Injury of the Adult Mouse Femoral Nerve. PLoS ONE, 2014, 9, e112984.	1.1	10
102	The cell adhesion molecule CHL1 interacts with patched-1 to regulate apoptosis during postnatal cerebellar development. Journal of Cell Science, 2017, 130, 2606-2619.	1.2	10
103	L1cam curbs the differentiation of adult-born hippocampal neurons. Stem Cell Research, 2020, 48, 101999.	0.3	8
104	Application of Antibodies to Neuronally Expressed Nogo-A Increases Neuronal Survival and Neurite Outgrowth. International Journal of Molecular Sciences, 2020, 21, 5417.	1.8	8
105	Cell adhesion molecule L1 interacts with the chromo shadow domain of heterochromatin protein 1 isoforms $\hat{l}\pm$, \hat{l}^2 , and $\hat{E}\pm$ via its intracellular domain. FASEB Journal, 2022, 36, e22074.	0.2	7
106	The Cell Adhesion Molecule L1 Interacts with Methyl CpG Binding Protein 2 via Its Intracellular Domain. International Journal of Molecular Sciences, 2022, 23, 3554.	1.8	7
107	Participation of perforin in mediating dopaminergic neuron loss in MPTP-induced Parkinson's disease in mice. Biochemical and Biophysical Research Communications, 2017, 484, 618-622.	1.0	6
108	Myristoylated alanineâ€rich Câ€kinase substrate effector domain peptide improves sexâ€specific recovery and axonal regrowth after spinal cord injury. FASEB Journal, 2020, 34, 12677-12690.	0.2	6

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109	Mitochondrial and Neuronal Dysfunctions in L1 Mutant Mice. International Journal of Molecular Sciences, 2022, 23, 4337.	1.8	6
110	Histone H1 improves regeneration after mouse spinal cord injury and changes shape and gene expression of cultured astrocytes. Restorative Neurology and Neuroscience, 2019, 37, 291-313.	0.4	5
111	Different Functions of Recombinantly Expressed Domains of Tenascin-C in Glial Scar Formation. Frontiers in Immunology, 2020, 11, 624612.	2.2	4
112	L1CAM Beneficially Inhibits Histone Deacetylase 2 Expression under Conditions of Alzheimer's Disease. Current Alzheimer Research, 2020, 17, 382-392.	0.7	4
113	Antagonistic L1 Adhesion Molecule Mimetic Compounds Inhibit Glioblastoma Cell Migration In Vitro. Biomolecules, 2022, 12, 439.	1.8	4
114	Small compounds mimicking the adhesion molecule L1 improve recovery in a zebrafish demyelination model. Scientific Reports, 2021, 11, 5878.	1.6	3
115	Interplay in neural functions of cell adhesion molecule close homolog of L1 (CHL1) and Programmed Cell Death 6 (PDCD6). FASEB BioAdvances, 2022, 4, 43-59.	1.3	3
116	Chondroitin 6-sulfate-binding peptides improve recovery in spinal cord-injured mice. European Journal of Pharmacology, 2021, 910, 174421.	1.7	3
117	Functions of Small Organic Compounds that Mimic the HNK-1 Glycan. International Journal of Molecular Sciences, 2020, 21, 7018.	1.8	2
118	Adhesion molecule L1 inhibition increases infarct size in cerebral ischemia-reperfusion without change in blood-brain barrier disruption. Neurological Research, 2021, 43, 751-759.	0.6	2
119	Mice lacking perforin have improved regeneration of the injured femoral nerve. Neural Regeneration Research, 2022, 17, 1802.	1.6	2
120	Proteins Binding to the Carbohydrate HNK-1: Common Origins?. International Journal of Molecular Sciences, 2021, 22, 8116.	1.8	1
121	Analysis of the functional sequences in the promoter region of the human adhesion molecule close homolog of L1. International Journal of Neuroscience, 2020, , 1-7.	0.8	0
122	The cell adhesion molecule CHL1 interacts with patched-1 to regulate apoptosis during postnatal cerebellar development. Development (Cambridge), 2017, 144, e1.2-e1.2.	1.2	0