Ronald L Davis

List of Publications by Year
in descending order

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145 papers	15,919 citations	19608 61 h-index	18606 119 g-index
153 all docs	153 docs citations	153 times ranked	9211 citing authors

#	Article	IF	Citations
1	Spatiotemporal Rescue of Memory Dysfunction in Drosophila. Science, 2003, 302, 1765-1768.	6.0	1,167
2	Spatiotemporal Gene Expression Targeting with the TARGET and Gene-Switch Systems in Drosophila. Science Signaling, 2004, 2004, pl6-pl6.	1.6	595
3	The Drosophila learning and memory gene rutabaga encodes a Ca2+calmodulin-responsive adenylyl cyclase. Cell, 1992, 68, 479-489.	13.5	561
4	OLFACTORY MEMORY FORMATION INDROSOPHILA: From Molecular to Systems Neuroscience. Annual Review of Neuroscience, 2005, 28, 275-302.	5.0	530
5	The Role of Drosophila Mushroom Body Signaling in Olfactory Memory. Science, 2001, 293, 1330-1333.	6.0	428
6	Eight different types of dopaminergic neurons innervate the Drosophila mushroom body neuropil: anatomical and physiological heterogeneity. Frontiers in Neural Circuits, 2009, 3, 5.	1.4	425
7	Defect in cyclic AMP phosphodiesterase due to the dunce mutation of learning in Drosophila melanogaster. Nature, 1981, 289, 79-81.	13.7	418
8	Mushroom bodies and drosophila learning. Neuron, 1993, 11, 1-14.	3.8	395
9	Tripartite Mushroom Body Architecture Revealed by Antigenic Markers. Learning and Memory, 1998, 5, 38-51.	0.5	356
10	Epigenetic Spreading of the Drosophila Dosage Compensation Complex from roX RNA Genes into Flanking Chromatin. Cell, 1999, 98, 513-522.	13.5	291
11	Preferential expression in mushroom bodies of the catalytic subunit of protein kinase A and its role in learning and memory. Neuron, 1993, 11, 197-208.	3.8	287
12	Integrin-mediated short-term memory in Drosophila. Nature, 1998, 391, 455-460.	13.7	281
13	roX1 RNA Paints the X Chromosome of Male Drosophila and Is Regulated by the Dosage Compensation System. Cell, 1997, 88, 445-457.	13.5	280
14	Traces of Drosophila Memory. Neuron, 2011, 70, 8-19.	3.8	272
15	A Novel Octopamine Receptor with Preferential Expression in<i>Drosophila</i>Mushroom Bodies. Journal of Neuroscience, 1998, 18, 3650-3658.	1.7	259
16	Gene expression systems in Drosophila: a synthesis of time and space. Trends in Genetics, 2004, 20, 384-391.	2.9	258
17	DAMB, a Novel Dopamine Receptor Expressed Specifically in Drosophila Mushroom Bodies. Neuron, 1996, 16, 1127-1135.	3.8	255
18	The cyclic AMP phosphodiesterase encoded by the drosophila dunce gene is concentrated in the mushroom body neuropil. Neuron, 1991, 6, 455-467.	3.8	243

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19	Dopamine Is Required for Learning and Forgetting in Drosophila. Neuron, 2012, 74, 530-542.	3.8	243
20	Preferential expression of the drosophila rutabaga gene in mushroom bodies, neural centers for learning in insects. Neuron, 1992, 9, 619-627.	3.8	239
21	Drosophila Î±/Î² Mushroom Body Neurons Form a Branch-Specific, Long-Term Cellular Memory Trace after Spaced Olfactory Conditioning. Neuron, 2006, 52, 845-855.	3.8	237
22	Olfactory Learning Deficits in Mutants for leonardo, a Drosophila Gene Encoding a 14-3-3 Protein. Neuron, 1996, 17, 931-944.	3.8	215
23	The Biology of Forgettingâ€"A Perspective. Neuron, 2017, 95, 490-503.	3.8	211
24	Cyclic AMP phosphodiesterases are localized in regions of the mouse brain associated with reinforcement, movement, and affect. Journal of Comparative Neurology, 1999, 407, 287-301.	0.9	205
25	Altered Representation of the Spatial Code for Odors after Olfactory Classical Conditioning. Neuron, 2004, 42, 437-449.	3.8	205
26	The GABAergic anterior paired lateral neuron suppresses and is suppressed by olfactory learning. Nature Neuroscience, 2009, 12, 53-59.	7.1	202
27	Sleep Facilitates Memory by Blocking Dopamine Neuron-Mediated Forgetting. Cell, 2015, 161, 1656-1667.	13.5	200
28	Thirty years of olfactory learning and memory research in Drosophila melanogaster. Progress in Neurobiology, 2005, 76, 328-347.	2.8	199
29	Dynamics of Learning-Related cAMP Signaling andÂStimulus Integration in the Drosophila Olfactory Pathway. Neuron, 2009, 64, 510-521.	3.8	199
30	Integrin Requirement for Hippocampal Synaptic Plasticity and Spatial Memory. Journal of Neuroscience, 2003, 23, 7107-7116.	1.7	175
31	Olfactory Learning. Neuron, 2004, 44, 31-48.	3.8	173
32	Leonardo, a Drosophila 14-3-3 Protein Involved in Learning, Regulates Presynaptic Function. Neuron, 1997, 19, 391-402.	3.8	158
33	Olfactory Learning in Drosophila. Physiology, 2010, 25, 338-346.	1.6	158
34	Â1-Integrins Are Required for Hippocampal AMPA Receptor-Dependent Synaptic Transmission, Synaptic Plasticity, and Working Memory. Journal of Neuroscience, 2006, 26, 223-232.	1.7	150
35	Octopamine receptor OAMB is required for ovulation in Drosophila melanogaster. Developmental Biology, 2003, 264, 179-190.	0.9	147
36	Pharmacogenetic rescue in time and space of the rutabaga memory impairment by using Gene-Switch. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 198-203.	3.3	144

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37	14-3-3 proteins in neuronal development and function. Molecular Neurobiology, 1998, 16, 269-284.	1.9	142
38	Larval and pupal development of the mushroom bodies in the honey bee,Apis mellifera. , 1999, 414, 97-113.		140
39	SRC-1 Null Mice Exhibit Moderate Motor Dysfunction and Delayed Development of Cerebellar Purkinje Cells. Journal of Neuroscience, 2003, 23, 213-222.	1.7	137
40	GABAA Receptor RDL Inhibits Drosophila Olfactory Associative Learning. Neuron, 2007, 56, 1090-1102.	3.8	136
41	Drosophila DPM Neurons Form a Delayed and Branch-Specific Memory Trace after Olfactory Classical Conditioning. Cell, 2005, 123, 945-957.	13.5	134
42	Dunce mutants of Drosophila melanogaster: mutants defective in the cyclic AMP phosphodiesterase enzyme system.. Journal of Cell Biology, 1981, 90, 101-107.	2.3	133
43	Functional neuroanatomy of <i>Drosophila</i> olfactory memory formation. Learning and Memory, 2014, 21, 519-526.	0.5	132
44	Drosophila fasciclinII Is Required for the Formation of Odor Memories and for Normal Sensitivity to Alcohol. Cell, 2001, 105, 757-768.	13.5	124
45	Molecular biology and anatomy ofDrosophila olfactory associative learning. BioEssays, 2001, 23, 571-581.	1.2	122
46	Integrin-Mediated Regulation of Synaptic Morphology, Transmission, and Plasticity. Journal of Neuroscience, 2000, 20, 6868-6878.	1.7	118
47	The Role of cAMP Response Element-Binding Protein in Drosophila Long-Term Memory. Journal of Neuroscience, 2004, 24, 8823-8828.	1.7	117
48	The cyclic AMP system andDrosophila learning. Molecular and Cellular Biochemistry, 1995, 149-150, 271-278.	1.4	115
49	Spatial and Temporal Control of Gene Expression in Drosophila Using the Inducible GeneSwitch GAL4 System. I. Screen for Larval Nervous System Drivers. Genetics, 2008, 178, 215-234.	1.2	115
50	Learning Performance of Normal and Mutant<i>Drosophila</i>after Repeated Conditioning Trials with Discrete Stimuli. Journal of Neuroscience, 2000, 20, 2944-2953.	1.7	109
51	Roles for Drosophila mushroom body neurons in olfactory learning and memory. Learning and Memory, 2006, 13, 659-668.	0.5	109
52	Molecular characterization of human and bovine rod photoreceptor cGMP phosphodiesterase Î±-subunit and chromosomal localization of the human gene. Genomics, 1990, 6, 272-283.	1.3	105
53	Detection of Calcium Transients in<i>Drosophila</i>Mushroom Body Neurons with Camgaroo Reporters. Journal of Neuroscience, 2003, 23, 64-72.	1.7	100
54	Dopamine Neurons Mediate Learning and Forgetting through Bidirectional Modulation of a Memory Trace. Cell Reports, 2018, 25, 651-662.e5.	2.9	97

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55	Characterization of the memory gene dunce of Drosophila melanogaster. Journal of Molecular Biology, 1991, 222, 553-565.	2.0	96
56	At least two genes reside within a large intron of the dunce gene of Drosophila. Nature, 1987, 329, 721-724.	13.7	95
57	A Late-Phase, Long-Term Memory Trace Forms in the Î³ Neurons of<i>Drosophila</i>Mushroom Bodies after Olfactory Classical Conditioning. Journal of Neuroscience, 2010, 30, 16699-16708.	1.7	92
58	Drosophila Homer Is Required in a Small Set of Neurons Including the Ellipsoid Body for Normal Ethanol Sensitivity and Tolerance. Journal of Neuroscience, 2007, 27, 4541-4551.	1.7	87
59	<i>kurtz</i>, a Novel Nonvisual Arrestin, Is an Essential Neural Gene in Drosophila. Genetics, 2000, 155, 1281-1295.	1.2	81
60	Scribble Scaffolds a Signalosome for Active Forgetting. Neuron, 2016, 90, 1230-1242.	3.8	80
61	Reciprocal synapses between mushroom body and dopamine neurons form a positive feedback loop required for learning. ELife, 2017, 6, .	2.8	80
62	Identification of Genes That Promote or Inhibit Olfactory Memory Formation in <i>Drosophila</i>. Genetics, 2015, 199, 1173-1182.	1.2	75
63	Dopamine Receptor DAMB Signals via Gq to Mediate Forgetting in Drosophila. Cell Reports, 2017, 21, 2074-2081.	2.9	73
64	Isolation of mRNA from specific tissues of Drosophila by mRNA tagging. Nucleic Acids Research, 2005, 33, e148-e148.	6.5	71
65	Genetic dissection of the learning/memory gene dunce of Drosophila melanogaster.. Genes and Development, 1993, 7, 1447-1458.	2.7	70
66	System-Like Consolidation of Olfactory Memories in Drosophila. Journal of Neuroscience, 2013, 33, 9846-9854.	1.7	68
67	The cyclic AMP system and Drosophila learning. , 1995, 149-150, 271-278.		59
68	Exploratory Activity in Drosophila Requires the kurtz Nonvisual Arrestin. Genetics, 2007, 175, 1197-1212.	1.2	58
69	Interactions between Intercellular Adhesion Molecule-5 (ICAM-5) and Î²1 integrins regulate neuronal synapse formation. Journal of Cell Science, 2012, 126, 77-89.	1.2	58
70	Chapter 18 Olfactory memory traces in Drosophila. Progress in Brain Research, 2008, 169, 293-304.	0.9	56
71	A Distinct Set of Drosophila Brain Neurons Required for Neurofibromatosis Type 1-Dependent Learning and Memory. Journal of Neuroscience, 2010, 30, 10135-10143.	1.7	54
72	Compensatory redistribution of neuroligins and Nâ€cadherin following deletion of synaptic Î²1â€integrin. Journal of Comparative Neurology, 2012, 520, 2041-2052.	0.9	54

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73	Interrogating the Spatiotemporal Landscape of Neuromodulatory GPCR Signaling by Real-Time Imaging of cAMP in Intact Neurons and Circuits. Cell Reports, 2018, 22, 255-268.	2.9	53
74	TheDrosophila brain revisited by enhancer detection. Journal of Neurobiology, 1996, 31, 88-102.	3.7	52
75	The Long-Term Memory Trace Formed in the<i>Drosophila</i>Î±/Î² Mushroom Body Neurons Is Abolished in Long-Term Memory Mutants. Journal of Neuroscience, 2011, 31, 5643-5647.	1.7	51
76	A mouse homolog of dunce, a gene important for learning and memory indrosophila, is preferentially expressed in olfactory receptor neurons. Journal of Neurobiology, 1995, 28, 102-113.	3.7	49
77	Î±3-Integrins are required for hippocampal long-term potentiation and working memory. Learning and Memory, 2007, 14, 606-615.	0.5	48
78	The GABAA Receptor RDL Suppresses the Conditioned Stimulus Pathway for Olfactory Learning. Journal of Neuroscience, 2009, 29, 1573-1579.	1.7	48
79	Inhibiting the Mitochondrial Calcium Uniporter during Development Impairs Memory in Adult Drosophila. Cell Reports, 2016, 16, 2763-2776.	2.9	48
80	The Drosophila dunce locus: learning and memory genes in the fly. Trends in Genetics, 1991, 7, 224-229.	2.9	45
81	Biochemistry of insect learning: Lessons from bees and flies. Insect Biochemistry and Molecular Biology, 1996, 26, 327-335.	1.2	44
82	Aging impairs intermediate-term behavioral memory by disrupting the dorsal paired medial neuron memory trace. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6319-6324.	3.3	44
83	Conditional expression of UAS-transgenes in the adult eye with a new gene-switch vector system. Genesis, 2002, 34, 127-131.	0.8	42
84	Mechanism of Action and Target Identification: A Matter of Timing in Drug Discovery. IScience, 2020, 23, 101487.	1.9	41
85	Insect olfactory memory in time and space. Current Opinion in Neurobiology, 2006, 16, 679-685.	2.0	39
86	MiR-980 Is a Memory Suppressor MicroRNA that Regulates the Autism-Susceptibility Gene A2bp1. Cell Reports, 2016, 14, 1698-1709.	2.9	39
87	Gilgamesh Is Required for rutabaga-Independent Olfactory Learning in Drosophila. Neuron, 2010, 67, 810-820.	3.8	38
88	Distinct Traces for Appetitive versus Aversive Olfactory Memories in DPM Neurons of Drosophila. Current Biology, 2012, 22, 1247-1252.	1.8	38
89	microRNAs That Promote or Inhibit Memory Formation in <i>Drosophila melanogaster</i>. Genetics, 2015, 200, 569-580.	1.2	38
90	Neuroanatomy: Mushrooming mushroom bodies. Current Biology, 1996, 6, 146-148.	1.8	37

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91	A Dual Role for the Adaptor Protein DRK in<i>Drosophila</i>Olfactory Learning and Memory. Journal of Neuroscience, 2009, 29, 2611-2625.	1.7	36
92	GENETIC ANALYSIS OF CHROMOMERE 3D4 IN <i>DROSOPHILA MELANOGASTER</i>: THE <i>DUNCE</i> AND <i>SPERM-AMOTILE</i> GENES. Genetics, 1982, 100, 587-596.	1.2	36
93	Aging Impairs Protein-Synthesis-Dependent Long-Term Memory in<i>Drosophila</i>. Journal of Neuroscience, 2015, 35, 1173-1180.	1.7	34
94	Genetic association of cyclic AMP signaling genes with bipolar disorder. Translational Psychiatry, 2012, 2, e169-e169.	2.4	32
95	Î±8â€Integrins are required for hippocampal longâ€term potentiation but not for hippocampalâ€dependent learning. Genes, Brain and Behavior, 2010, 9, 402-410.	1.1	31
96	The opt1 gene ofDrosophila melanogaster encodes a proton-dependent dipeptide transporter. American Journal of Physiology - Cell Physiology, 1998, 275, C857-C869.	2.1	30
97	Wnt Signaling Is Required for Long-Term Memory Formation. Cell Reports, 2013, 4, 1082-1089.	2.9	30
98	Dopamine-based mechanism for transient forgetting. Nature, 2021, 591, 426-430.	13.7	29
99	Outward Currents inDrosophilaLarval Neurons:dunceLacks a Maintained Outward Current Component Downregulated by cAMP. Journal of Neuroscience, 1998, 18, 1399-1407.	1.7	27
100	Mushroom Bodies, Ca2+ Oscillations, and the Memory Gene amnesiac. Neuron, 2001, 30, 653-656.	3.8	27
101	Brain transcriptome changes in the aging Drosophila melanogaster accompany olfactory memory performance deficits. PLoS ONE, 2018, 13, e0209405.	1.1	26
102	Memory suppressor genes: Modulating acquisition, consolidation, and forgetting. Neuron, 2021, 109, 3211-3227.	3.8	26
103	Drosophila SLC22A Transporter Is a Memory Suppressor Gene that Influences Cholinergic Neurotransmission to the Mushroom Bodies. Neuron, 2016, 90, 581-595.	3.8	25
104	A partial characterization of the cyclic nucleotide phosphodiesterases of Drosophila melanogaster. Archives of Biochemistry and Biophysics, 1980, 203, 412-421.	1.4	24
105	A Drosophila Nonvisual Arrestin Is Required for the Maintenance of Olfactory Sensitivity. Chemical Senses, 2006, 31, 49-62.	1.1	23
106	Rac in the Act of Forgetting. Cell, 2010, 140, 456-458.	13.5	21
107	Caspase Inhibition in Select Olfactory Neurons Restores Innate Attraction Behavior in Aged Drosophila. PLoS Genetics, 2014, 10, e1004437.	1.5	21
108	Aversive Training Induces Both Presynaptic and Postsynaptic Suppression in<i>Drosophila</i>. Journal of Neuroscience, 2019, 39, 9164-9172.	1.7	20

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109	Neuron-based high-content assay and screen for CNS active mitotherapeutics. Science Advances, 2020, 6, eaaw8702.	4.7	20
110	Novel, primate-specific PDE10A isoform highlights gene expression complexity in human striatum with implications on the molecular pathology of bipolar disorder. Translational Psychiatry, 2016, 6, e742-e742.	2.4	18
111	Genetic manipulation of cyclic AMP levels in Drosophila,melanogaster. Biochemical and Biophysical Research Communications, 1978, 81, 1180-1186.	1.0	17
112	MicroRNA function in Drosophila memory formation. Current Opinion in Neurobiology, 2017, 43, 15-24.	2.0	17
113	Thedachshund gene is required for the proper guidance and branching of mushroom body axons inDrosophila melanogaster. Journal of Neurobiology, 2005, 64, 133-144.	3.7	16
114	Improved Scalability of Neuron-Based Phenotypic Screening Assays for Therapeutic Discovery in Neuropsychiatric Disorders. Molecular Neuropsychiatry, 2017, 3, 141-150.	3.0	16
115	<i>Drosophila mef2</i>is essential for normal mushroom body and wing development. Biology Open, 2018, 7, .	0.6	16
116	Early Mitochondrial Fragmentation and Dysfunction in a Drosophila Model for Alzheimerâ€™s Disease. Molecular Neurobiology, 2021, 58, 143-155.	1.9	16
117	New Series of Drosophila Expression Vectors Suitable for Behavioral Rescue. BioTechniques, 1999, 27, 54-56.	0.8	15
118	Active Forgetting of Olfactory Memories in Drosophila. Progress in Brain Research, 2014, 208, 39-62.	0.9	15
119	Copia RNA levels are elevated in dunce mutants and modulated by cAMP. Nucleic Acids Research, 1989, 17, 8313-8326.	6.5	14
120	Rac1 Impairs Forgetting-Induced Cellular Plasticity in Mushroom Body Output Neurons. Frontiers in Cellular Neuroscience, 2020, 14, 258.	1.8	14
121	Novel PDE10A transcript diversity in the human striatum: Insights into gene complexity, conservation and regulation. Gene, 2017, 606, 17-24.	1.0	13
122	Associative learning drives longitudinally graded presynaptic plasticity of neurotransmitter release along axonal compartments. ELife, 2022, 11, .	2.8	13
123	An adjustable-threshold algorithm for the identification of objects in three-dimensional images. Bioinformatics, 2003, 19, 1431-1435.	1.8	12
124	Ras acts as a molecular switch between two forms of consolidated memory in <i>Drosophila</i>. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2133-2139.	3.3	12
125	Drosophila Memory Research through Four Eras. Handbook of Behavioral Neuroscience, 2013, , 359-377.	0.7	11
126	Stromalin Constrains Memory Acquisition by Developmentally Limiting Synaptic Vesicle Pool Size. Neuron, 2019, 101, 103-118.e5.	3.8	10

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127	High-Throughput Small Molecule Screen Identifies Modulators of Mitochondrial Function in Neurons. IScience, 2020, 23, 100931.	1.9	9
128	The Scent of Drosophila Sex. Neuron, 2007, 54, 14-16.	3.8	8
129	Out of sight, but not out of mind. Nature, 2008, 453, 1193-1194.	13.7	8
130	SnapShot: Olfactory Classical Conditioning of Drosophila. Cell, 2015, 163, 524-524.e1.	13.5	8
131	Developmental inhibition of miR-iab8-3p disrupts mushroom body neuron structure and adult learning ability. Developmental Biology, 2016, 419, 237-249.	0.9	8
132	A clonal analysis of tergite development in Drosophila of Ultraabdominal and paradoxical genotypes. Developmental Biology, 1977, 58, 114-123.	0.9	7
133	Progress in understanding the Drosophila dnc locus. Comparative Biochemistry and Physiology Part B: Comparative Biochemistry, 1994, 108, 1-9.	0.2	7
134	Neurofibromin progress on the fly. Nature, 2000, 403, 846-847.	13.7	7
135	High Content, Phenotypic Assays and Screens for Compounds Modulating Cellular Processes in Primary Neurons. Methods in Enzymology, 2018, 610, 219-250.	0.4	7
136	Presenilin-1 and Memories of the Forebrain. Neuron, 2001, 32, 763-765.	3.8	6
137	Mushroom-Body Memories: An Obituary Prematurely Written?. Current Biology, 2012, 22, R272-R275.	1.8	6
138	An interchromosomal gene conversion of the Drosophila dunce locus identified with restriction site polymorphisms: A potential involvement of transposable elements in gene conversion. Molecular Genetics and Genomics, 1987, 208, 315-324.	2.4	5
139	Remote Control of Fruit Fly Behavior. Cell, 2005, 121, 6-7.	13.5	4
140	miR-92a Suppresses Mushroom Body-Dependent Memory Consolidation in Drosophila. ENeuro, 2020, 7, ENEURO.0224-20.2020.	0.9	4
141	Cyclic AMP Imaging Sheds Light on PDF Signaling in Circadian Clock Neurons. Neuron, 2008, 58, 161-163.	3.8	3
142	Elongator complex is required for long-term olfactory memory formation in <i>Drosophila</i>. Learning and Memory, 2018, 25, 183-196.	0.5	3
143	High-Throughput Phenotypic Assay for Compounds That Influence Mitochondrial Health Using iPSC-Derived Human Neurons. SLAS Discovery, 2021, 26, 811-822.	1.4	3
144	Spermidine cures flies of senior moments. Nature Neuroscience, 2013, 16, 1363-1364.	7.1	2

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145	Fruit Flies Can Teach Us How We Forget. Frontiers for Young Minds, 0, 5, .	0.8	0