Mark L Mayer

List of Publications by Year
in descending order

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131
papers

17,077
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31902
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all docs

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docs citations

135
times ranked

8136
citing authors

#	ARTICLE	IF	CITATIONS
1	Glutamate receptors from diverse animal species exhibit unexpected structural and functional diversity. Journal of Physiology, 2021, 599, 2605-2613.	1.3	10
2	Structural biology of kainate receptors. Neuropharmacology, 2021, 190, 108511.	2.0	7
3	Partial agonists go molecular. Trends in Pharmacological Sciences, 2021, 42, 507-509.	4.0	0
4	Structural biology of glutamate receptor ion channels: towards an understanding of mechanism. Current Opinion in Structural Biology, 2019, 57, 185-195.	2.6	44
5	Assembly of Kainate and AMPA Receptors. Biophysical Journal, 2018, 114, 126a.	0.2	0
6	Family matters. ELife, 2018, 7, .	2.8	2
7	The structure and function of glutamate receptors: Mg2+ block to X-ray diffraction. Neuropharmacology, 2017, 112, 4-10.	2.0	8
8	Cryo-Electron Microscopy Reveals Structural Basis of Kainate Subtype Glutamate Receptor Desensitization. Biophysical Journal, 2017, 112, 419a.	0.2	0
9	Probing a Molecular Lock in a Primitive NMDA Receptor. Biophysical Journal, 2017, 112, 477a-478a.	0.2	0
10	The Challenge of Interpreting Glutamate-Receptor Ion-Channel Structures. Biophysical Journal, 2017, 113, 2143-2151.	0.2	23
11	Ionotropic glutamate receptors: Still exciting after all these years. Neuropharmacology, 2017, 112, 1-3.	2.0	2
12	Preferential assembly of heteromeric kainate and AMPA receptor amino terminal domains. ELife, 2017, 6, .	2.8	25
13	Structural biology of glutamate receptor ion channel complexes. Current Opinion in Structural Biology, 2016, 41, 119-127.	2.6	45
14	Structural basis of kainate subtype glutamate receptor desensitization. Nature, 2016, 537, 567-571.	13.7	78
15	Novel Functional Properties of Drosophila CNS Glutamate Receptors. Neuron, 2016, 92, 1036-1048.	3.8	38
16	Molecular lock regulates binding of glycine to a primitive NMDA receptor. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E6786-E6795.	3.3	30
17	Monochromatic multicomponent fluorescence sedimentation velocity for the study of high-affinity protein interactions. ELife, 2016, 5, .	2.8	11
18	Structural Mechanism of Glutamate Receptor Activation and Desensitization. Biophysical Journal, 2015, 108, 287a.	0.2	0

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19	Conformational Changes Underlying Glutamate Receptor Gating. Biophysical Journal, 2015, 108, 335a.	0.2	0
20	Functional reconstitution of <i>Drosophila melanogaster</i> NMJ glutamate receptors. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6182-6187.	3.3	42
21	Glycine activated ion channel subunits encoded by ctenophore glutamate receptor genes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E6048-57.	3.3	43
22	Analysis of High-Affinity Protein Interactions by Fluorescence Optical Analytical Ultracentrifugation. Biophysical Journal, 2014, 106, 236a.	0.2	0
23	Structural mechanism of glutamate receptor activation and desensitization. Nature, 2014, 514, 328-334.	13.7	207
24	Analysis of Protein Interactions with Picomolar Binding Affinity by Fluorescence-Detected Sedimentation Velocity. Analytical Chemistry, 2014, 86, 3181-3187.	3.2	41
25	Role of Amino-Terminal Domain in the Assembly Mechanism of Kainate-Subtype Glutamate Receptor Ion Channels. Biophysical Journal, 2014, 106, 151a.	0.2	0
26	Principal Component Analysis of Glutamate Receptor Ligand Binding Domains. Biophysical Journal, 2014, 106, 805a.	0.2	0
27	Calcium Flux Through AvGluR1: A Glutamate Receptor with a Potassium Channel Selectivity Sequence. Biophysical Journal, 2014, 106, 151a.	0.2	0
28	Investigating High Affinity Protein Self-Association by Fluorescence Optical Sedimentation Velocity Analytical Ultracentrifugation. Biophysical Journal, 2014, 106, 151a.	0.2	0
29	NMDA and AMPA Receptor Ligand-Binding Domains Exhibit Subtype-Specific Conformational Propensities. Biophysical Journal, 2014, 106, 29a.	0.2	0
30	Self-assembled monolayers improve protein distribution on holey carbon cryo-EM supports. Scientific Reports, 2014, 4, 7084.	1.6	88
31	Conformational Analysis of NMDA Receptor GluN1, GluN2, and GluN3 Ligand-Binding Domains Reveals Subtype-Specific Characteristics. Structure, 2013, 21, 1788-1799.	1.6	86
32	Novel Ligand Binding Mechanisms in AvGluR1. Biophysical Journal, 2013, 104, 273a.	0.2	0
33	Glutamate Receptor Desensitization Mediated by Changes in Quaternary Structure of the Ligand Binding Domain. Biophysical Journal, 2013, 104, 352a.	0.2	1
34	Unique Conformational Distributions for NMDA Receptor Glycine and Glutamate Ligand-Binding Domains. Biophysical Journal, 2013, 104, 274a.	0.2	0
35	The GluK3 Ligand Binding Domain has a Zinc Binding Site at the Dimer Interface. Biophysical Journal, 2013, 104, 272a.	0.2	0
36	Anions Mediate Ligand Binding in Adineta vaga Glutamate Receptor Ion Channels. Structure, 2013, 21, 414-425.	1.6	14

#	Article	IF	Citations
37	Functional Insights from Glutamate Receptor Ion Channel Structures. Annual Review of Physiology, 2013, 75, 313-337.	5.6	124
38	Glutamate receptor desensitization is mediated by changes in quaternary structure of the ligand binding domain. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5921-5926.	3.3	53
39	Analysis of High Affinity Self-Association by Fluorescence Optical Sedimentation Velocity Analytical Ultracentrifugation of Labeled Proteins: Opportunities and Limitations. PLoS ONE, 2013, 8, e83439.	1.1	31
40	Analysis of high-affinity assembly for AMPA receptor amino-terminal domains. Journal of General Physiology, 2012, 139, 371-388.	0.9	45
41	Zinc Potentiates GluK3 Glutamate Receptor Function by Stabilizing the Ligand Binding Domain Dimer Interface. Neuron, 2012, 76, 565-578.	3.8	59
42	Optimization of Constructs for Expression, Purification and Crystallization of Glutamate Receptor Ion Channels. Biophysical Journal, 2012, 102, 116a.	0.2	0
43	Analysis of Oligomer Assembly for the GluA2 Amino Terminal Domain. Biophysical Journal, 2012, 102, 335a-336a.	0.2	0
44	Structure and Assembly Mechanism for Heteromeric Kainate Receptors. Neuron, 2011, 71, 319-331.	3.8	102
45	Binding site and ligand flexibility revealed by high resolution crystal structures of GluK1 competitive antagonists. Neuropharmacology, 2011, 60, 126-134.	2.0	24
46	Glutamate receptor ion channels: where do all the calories go?. Nature Structural and Molecular Biology, 2011, 18, 253-254.	3.6	3
47	Emerging Models of Glutamate Receptor Ion Channel Structure and Function. Structure, 2011, 19, 1370-1380.	1.6	70
48	Structure and mechanism of glutamate receptor ion channel assembly, activation and modulation. Current Opinion in Neurobiology, 2011, 21, 283-290.	2.0	65
49	Accounting for Solvent Signal Offsets in the Analysis of Interferometric Sedimentation Velocity Data. Macromolecular Bioscience, 2010, 10, 736-745.	2.1	26
50	Macromol. Biosci. 7/2010. Macromolecular Bioscience, 2010, 10, .	2.1	0
51	Domain organization and function in GluK2 subtype kainate receptors. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 8463-8468.	3.3	37
52	Energetics of Allosteric ion Binding to a Ligand-Gated ion Channel. Biophysical Journal, 2010, 98, 610a.	0.2	0
53	Crystal Structure of KA2-Subtype Ionotropic Glutamate Receptor Amino Terminal Domain. Biophysical Journal, 2010, 98, 524a.	0.2	0
54	Crystal Structures of the Glutamate Receptor Ion Channel GluK3 and GluK5 Amino-Terminal Domains. Journal of Molecular Biology, 2010, 404, 680-696.	2.0	41

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55	AMPA Receptor Ligand Binding Domain Mobility Revealed by Functional Cross Linking. Journal of Neuroscience, 2009, 29, 11912-11923.	1.7	57
56	Energetics of glutamate receptor ligand binding domain dimer assembly are modulated by allosteric ions. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 12329-12334.	3.3	46
57	Stability of ligand-binding domain dimer assembly controls kainate receptor desensitization. EMBO Journal, 2009, 28, 1518-1530.	3.5	54
58	The N-terminal domain of GluR6-subtype glutamate receptor ion channels. Nature Structural and Molecular Biology, 2009, 16, 631-638.	3.6	97
59	Engineering a high-affinity allosteric binding site for divalent cations in kainate receptors. Neuropharmacology, 2009, 56, 114-120.	2.0	6
60	ACET is a highly potent and specific kainate receptor antagonist: Characterisation and effects on hippocampal mossy fibre function. Neuropharmacology, 2009, 56, 121-130.	2.0	44
61	Selectivity and Cooperativity of Modulatory Ions in a Neurotransmitter Receptor. Biophysical Journal, 2009, 96, 1751-1760.	0.2	18
62	Purification and crystallization of iGluR Amino Terminal Domains. Biophysical Journal, 2009, 96, 491a.	0.2	0
63	Structure And Stability Of Ligand Binding Core Dimer Assembly Controls Desensitization In A Kainate Receptor. Biophysical Journal, 2009, 96, 491a.	0.2	0
64	Molecular mechanism of ligand recognition by NR3 subtype glutamate receptors. EMBO Journal, 2008, 27, 2158-2170.	3.5	93
65	Molecular Basis of Kainate Receptor Modulation by Sodium. Neuron, 2008, 58, 720-735.	3.8	85
66	Structure and Mechanism of Action of AMPA and Kainate Receptors. , 2008, , 251-269.		0
67	GRIK4 and the Kainate Receptor. American Journal of Psychiatry, 2007, 164, 1148-1148.	4.0	4
68	Structure and Mechanism of Kainate Receptor Modulation by Anions. Neuron, 2007, 53, 829-841.	3.8	111
69	Synthesis and Pharmacological Characterization of N3-Substituted Willardiine Derivatives:Â Role of the Substituent at the 5-Position of the Uracil Ring in the Development of Highly Potent and Selective GLUK5Kainate Receptor Antagonists. Journal of Medicinal Chemistry, 2007, 50, 1558-1570.	2.9	70
70	Conformational restriction blocks glutamate receptor desensitization. Nature Structural and Molecular Biology, 2006, 13, 1120-1127.	3.6	106
71	Glutamate receptors at atomic resolution. Nature, 2006, 440, 456-462.	13.7	267
72	Interdomain Interactions in AMPA and Kainate Receptors Regulate Affinity for Glutamate. Journal of Neuroscience, 2006, 26, 7650-7658.	1.7	79

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73	Crystal Structures of the Kainate Receptor GluR5 Ligand Binding Core Dimer with Novel GluR5-Selective Antagonists. Journal of Neuroscience, 2006, 26, 2852-2861.	1.7	111
74	Characterization of a Soluble Ligand Binding Domain of the NMDA Receptor Regulatory Subunit NR3A. Journal of Neuroscience, 2006, 26, 4559-4566.	1.7	92
75	Some assembly required. Nature Structural and Molecular Biology, 2005, 12, 208-209.	3.6	0
76	Glutamate receptor ion channels. Current Opinion in Neurobiology, 2005, 15, 282-288.	2.0	747
77	Crystal Structures of the GluR5 and GluR6 Ligand Binding Cores: Molecular Mechanisms Underlying Kainate Receptor Selectivity. Neuron, 2005, 45, 539-552.	3.8	259
78	Structure and Function of Glutamate Receptors. Annals of the New York Academy of Sciences, 2004, 1038, 125-130.	1.8	2
79	Structure and Function of Glutamate Receptor Ion Channels. Annual Review of Physiology, 2004, 66, 161-181.	5.6	379
80	Regulation of AMPA Receptor Gating by Ligand Binding Core Dimers. Neuron, 2004, 41, 379-388.	3.8	128
81	Structural basis for partial agonist action at ionotropic glutamate receptors. Nature Neuroscience, 2003, 6, 803-810.	7.1	364
82	Tuning activation of the AMPA-sensitive GluR2 ion channel by genetic adjustment of agonist-induced conformational changes. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 5736-5741.	3.3	139
83	Agonist Binding Domains of Glutamate Receptors: Structure and Function. , 2003, , 219-221.		0
84	Mechanism of Activation and Selectivity in a Ligand-Gated Ion Channel:Â Structural and Functional Studies of GluR2 and Quisqualateâ€,â€¡. Biochemistry, 2002, 41, 15635-15643.	1.2	109
85	Mechanism of glutamate receptor desensitization. Nature, 2002, 417, 245-253.	13.7	650
86	Mechanisms for ligand binding to GluR0 ion channels: crystal structures of the glutamate and serine complexes and a closed apo state. Journal of Molecular Biology, 2001, 311, 815-836.	2.0	141
87	Structural Similarities between Glutamate Receptor Channels and K+ Channels Examined by Scanning Mutagenesis. Journal of General Physiology, 2001, 117, 345-360.	0.9	96
88	Heteromeric Kainate Receptors Formed by the Coassembly of GluR5, GluR6, and GluR7. Journal of Neuroscience, 1999, 19, 8281-8291.	1.7	120
89	Amino acid substitutions in the pore of rat glutamate receptors at sites influencing block by polyamines. Journal of Physiology, 1999, 520, 337-357.	1.3	42
90	Functional characterization of a potassium-selective prokaryotic glutamate receptor. Nature, 1999, 402, 817-821.	13.7	304

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91	Ion-binding sites in NMDA receptors: classical approaches provide the numbers. Nature Neuroscience, 1998, 1, 433-434.	7.1	5
92	An analysis of philanthotoxin block for recombinant rat GluR6(Q) glutamate receptor channels. Journal of Physiology, 1998, 509, 635-650.	1.3	64
93	The role of hydrophobic interactions in binding of polyamines to non NMDA receptor ion channels. Neuropharmacology, 1998, 37, 1381-1391.	2.0	24
94	Activity-Dependent Modulation of Glutamate Receptors by Polyamines. Journal of Neuroscience, 1998, 18, 8175-8185.	1.7	105
95	Growth Factor-Induced Transcription of GluR1 Increases Functional AMPA Receptor Density in Glial Progenitor Cells. Journal of Neuroscience, 1997, 17, 227-240.	1.7	44
96	A Novel Allosteric Potentiator of AMPA Receptors: 4-[2-(Phenylsulfonylamino)ethylthio]-2,6-Difluoro-Phenoxyacetamide. Journal of Neuroscience, 1997, 17, 5760-5771.	1.7	100
97	Permeation and block of rat glur6 glutamate receptor channels by internal and external polyamines. Journal of Physiology, 1997, 502, 575-589.	1.3	94
98	Finding homes at synapses. Nature, 1997, 389, 542-543.	13.7	15
99	AMPA Receptor Flip/Flop Mutants Affecting Deactivation, Desensitization, and Modulation by Cyclothiazide, Aniracetam, and Thiocyanate. Journal of Neuroscience, 1996, 16, 6634-6647.	1.7	324
100	Inward rectification of both AMPA and kainate subtype glutamate receptors generated by polyamine-mediated ion channel block. Neuron, 1995, 15, 453-462.	3.8	526
101	Structural determinants of allosteric regulation in alternatively spliced AMPA receptors. Neuron, 1995, 14, 833-843.	3.8	154
102	Structure and function of glutamate and nicotinic acetylcholine receptors. Current Opinion in Neurobiology, 1995, 5, 310-317.	2.0	60
103	Excitatory amino acid receptors in glial progenitor cells: Molecular and functional properties. Glia, 1994, 11, 94-101.	2.5	98
104	Glial cells of the oligodendrocyte lineage express both kainate- and AMPA-preferring subtypes of glutamate receptor. Neuron, 1994, 12, 357-371.	3.8	311
105	Pharmacologic Properties of NMDA Receptors. Annals of the New York Academy of Sciences, 1992, 648, 194-204.	1.8	31
106	Structureâ€activity analysis of binding kinetics for NMDA receptor competitive antagonists: the influence of conformational restriction. British Journal of Pharmacology, 1991, 104, 207-221.	2.7	69
107	Modulation of excitatory synaptic transmission by drugs that reduce desensitization at AMPA/kainate receptors. Neuron, 1991, 7, 971-984.	3.8	291
108	Kinetic analysis of interactions between kainate and AMPA: Evidence for activation of a single receptor in mouse hippocampal neurons. Neuron, 1991, 6, 785-798.	3.8	235

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109	NMDA receptors cloned at last. Nature, 1991, 354, 16-17.	13.7	11
110	Excitatory amino acid receptors, second messengers and regulation of intracellular Ca2+ in mammalian neurons. Trends in Pharmacological Sciences, 1990, 11, 254-260.	4.0	329
111	Glutamate Receptors in Cultures of Mouse Hippocampus Studied with Fast Applications of Agonists, Modulators and Drugs. Advances in Experimental Medicine and Biology, 1990, 268, 3-11.	0.8	5
112	A physiologist's view of the N-methyl-D-Aspartate receptor: An allosteric ion channel with multiple regulatory sites. Drug Development Research, 1989, 17, 263-280.	1.4	38
113	Regulation of NMDA receptor desensitization in mouse hippocampal neurons by glycine. Nature, 1989, 338, 425-427.	13.7	384
114	Open channel block of NMDA receptor responses evoked by tricyclic antidepressants. Neuron, 1989, 2, 1221-1227.	3.8	106
115	Activation and Desensitization of Glutamate Receptors in Mammalian CNS. , 1989, , 183-195.		1
116	Divalent Cations as Modulators of NMDA-Receptor Channels on Mouse Central Neurons. , 1988, , 383-393.		1
117	Conductance Mechanisms Activated by L-Glutamate. , 1988, , 15-33.		0
118	Micromolar concentrations of Zn2+ antagonize NMDA and GABA responses of hippocampal neurons. Nature, 1987, 328, 640-643.	13.7	813
119	Cellular mechanisms underlying excitotoxicity. Trends in Neurosciences, 1987, 10, 59-61.	4.2	128
120	The physiology of excitatory amino acids in the vertebrate central nervous system. Progress in Neurobiology, 1987, 28, 197-276.	2.8	1,718
121	Two channels reduced to one. Nature, 1987, 325, 480-481.	13.7	21
122	NMDA-receptor activation increases cytoplasmic calcium concentration in cultured spinal cord neurones. Nature, 1986, 321, 519-522.	13.7	1,777
123	Spontaneous electrical activity induced by herpes virus infection in rat sensory neuron cultures. Brain Research, 1985, 341, 360-364.	1.1	33
124	Excitatory Amino Acids: Membrane Physiology. , 1985, , 125-139.		0
125	Voltage-dependent block by Mg2+ of NMDA responses in spinal cord neurones. Nature, 1984, 309, 261-263.	13.7	2,640
126	Mg2+ dependence of membrane resistance increases evoked by NMDA in hippocampal neurones. Brain Research, 1984, 311, 392-396.	1.1	54

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127	Glutamate currents in mammalian spinal neurons: resolution of a paradox. Brain Research, 1984, 301, 375-379.	1.1	35
128	Lithium ions increase action potential duration of mammalian neurons. Brain Research, 1984, 293, 173-177.	1.1	28
129	On the mechanism of action of GABA in pelvic vesical ganglia: Biphasic responses evoked by two opposing actions on membrane conductance. Brain Research, 1983, 260, 233-248.	1.1	27
130	Periaqueductal grey neuronal activity: Correlation with EEG arousal evoked by noxious stimuli in the rat. Neuroscience Letters, 1982, 28, 297-301.	1.0	5
131	The excitatory action of substance P and stimulation of the stria terminalis bed nucleus on preoptic neurones. Brain Research, 1979, 166, 206-210.	1.1	19