Steven M Sine

List of Publications by Year
in descending order

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105 papers	7,860 citations	41323 49 h-index	51562 86 g-index
106 all docs	106 docs citations	106 times ranked	3606 citing authors

#	Article	IF	Citations
1	Recent advances in Cys-loop receptor structure and function. Nature, 2006, 440, 448-455.	13.7	480
2	Congenital myasthenic syndromes: pathogenesis, diagnosis, and treatment. Lancet Neurology, The, 2015, 14, 420-434.	4.9	413
3	Mutation of the acetylcholine receptor Î± subunit causes a slow-channel myasthenic syndrome by enhancing agonist binding affinity. Neuron, 1995, 15, 229-239.	3.8	273
4	Principal pathway coupling agonist binding to channel gating in nicotinic receptors. Nature, 2005, 438, 243-247.	13.7	263
5	Coupling of agonist binding to channel gating in an ACh-binding protein linked to an ion channel. Nature, 2004, 430, 896-900.	13.7	255
6	Congenital Myasthenic Syndrome Caused by Decreased Agonist Binding Affinity Due to a Mutation in the Acetylcholine Receptor Îµ Subunit. Neuron, 1996, 17, 157-170.	3.8	240
7	Sleuthing molecular targets for neurological diseases at the neuromuscular junction. Nature Reviews Neuroscience, 2003, 4, 339-352.	4.9	212
8	Novel Modulation of Neuronal Nicotinic Acetylcholine Receptors by Association with the Endogenous Prototoxin lynx1. Neuron, 2002, 33, 893-903.	3.8	197
9	Detection and trapping of intermediate states priming nicotinic receptor channel opening. Nature, 2009, 459, 451-454.	13.7	195
10	Ligand-binding domain of an Î±7-nicotinic receptor chimera and its complex with agonist. Nature Neuroscience, 2011, 14, 1253-1259.	7.1	183
11	Congenital Myasthenic Syndromes due to Heteroallelic Nonsense/Missense Mutations in the Acetylcholine Receptor Â Subunit Gene: Identification and Functional Characterization of Six New Mutations. Human Molecular Genetics, 1997, 6, 753-766.	1.4	164
12	The nicotinic receptor ligand binding domain. Journal of Neurobiology, 2002, 53, 431-446.	3.7	161
13	End-plate acetylcholine receptor deficiency due to nonsense mutations in the ? subunit. Annals of Neurology, 1996, 40, 810-817.	2.8	159
14	Slow-Channel Myasthenic Syndrome Caused By Enhanced Activation, Desensitization, and Agonist Binding Affinity Attributable to Mutation in the M2 Domain of the Acetylcholine Receptor Îµ Subunit. Journal of Neuroscience, 1997, 17, 5651-5665.	1.7	147
15	Current understanding of congenital myasthenic syndromes. Current Opinion in Pharmacology, 2005, 5, 308-321.	1.7	147
16	Structural basis of the different gating kinetics of fetal and adult acetylcholine receptors. Neuron, 1994, 13, 1395-1402.	3.8	144
17	Mutation in the M1 Domain of the Acetylcholine Receptor Îµ Subunit Decreases the Rate of Agonist Dissociation. Journal of General Physiology, 1997, 109, 757-766.	0.9	138
18	Structure and gating mechanism of the Î±7 nicotinic acetylcholine receptor. Cell, 2021, 184, 2121-2134.e13.	13.5	137

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19	Congenital myasthenic syndromes: Progress over the past decade. Muscle and Nerve, 2003, 27, 4-25.	1.0	130
20	Acetylcholine receptor M3 domain: stereochemical and volume contributions to channel gating. Nature Neuroscience, 1999, 2, 226-233.	7.1	119
21	Agonist-mediated Conformational Changes in Acetylcholine-binding Protein Revealed by Simulation and Intrinsic Tryptophan Fluorescence. Journal of Biological Chemistry, 2005, 280, 8443-8451.	1.6	119
22	The Interface between Extracellular and Transmembrane Domains of Homomeric Cys-Loop Receptors Governs Open-Channel Lifetime and Rate of Desensitization. Journal of Neuroscience, 2008, 28, 7808-7819.	1.7	118
23	Targeted Molecular Dynamics Study of C-Loop Closure and Channel Gating in Nicotinic Receptors. PLoS Computational Biology, 2006, 2, e134.	1.5	113
24	Mode Switching Kinetics Produced by a Naturally Occurring Mutation in the Cytoplasmic Loop of the Human Acetylcholine Receptor Îµ Subunit. Neuron, 1998, 20, 575-588.	3.8	109
25	End-Plate Acetylcholine Receptor: Structure, Mechanism, Pharmacology, and Disease. Physiological Reviews, 2012, 92, 1189-1234.	13.1	108
26	Number and Locations of Agonist Binding Sites Required to Activate Homomeric Cys-Loop Receptors. Journal of Neuroscience, 2009, 29, 6022-6032.	1.7	106
27	Initial Coupling of Binding to Gating Mediated by Conserved Residues in the Muscle Nicotinic Receptor. Journal of General Physiology, 2005, 126, 23-39.	0.9	102
28	Binding to Gating Transduction in Nicotinic Receptors: Cys-Loop Energetically Couples to Pre-M1 and M2â€“M3 Regions. Journal of Neuroscience, 2009, 29, 3189-3199.	1.7	90
29	Nicotinic Receptor Fourth Transmembrane Domain. Journal of General Physiology, 2000, 115, 663-672.	0.9	86
30	What Have We Learned from the Congenital Myasthenic Syndromes. Journal of Molecular Neuroscience, 2010, 40, 143-153.	1.1	82
31	Structural Elements in Î±-Conotoxin ImI Essential for Binding to Neuronal Î±7 Receptors. Journal of Biological Chemistry, 1998, 273, 11007-11011.	1.6	78
32	Fundamental Gating Mechanism of Nicotinic Receptor Channel Revealed by Mutation Causing a Congenital Myasthenic Syndrome. Journal of General Physiology, 2000, 116, 449-462.	0.9	77
33	Asymmetric Structural Motions of the Homomeric Î±7 Nicotinic Receptor Ligand Binding Domain Revealed by Molecular Dynamics Simulation. Biophysical Journal, 2003, 85, 3007-3018.	0.2	76
34	Stoichiometry for activation of neuronal Î±7 nicotinic receptors. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20819-20824.	3.3	75
35	Molecular Dissection of Subunit Interfaces in the Acetylcholine Receptor. Journal of Biological Chemistry, 1996, 271, 25770-25777.	1.6	74
36	Complex between Î±-bungarotoxin and an Î±7 nicotinic receptor ligand-binding domain chimaera. Biochemical Journal, 2013, 454, 303-310.	1.7	73

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37	Lysine Scanning Mutagenesis Delineates Structural Model of the Nicotinic Receptor Ligand Binding Domain. Journal of Biological Chemistry, 2002, 277, 29210-29223.	1.6	71
38	Mutation causing congenital myasthenia reveals acetylcholine receptor Î²/Î´ subunit interaction essential for assembly. Journal of Clinical Investigation, 1999, 104, 1403-1410.	3.9	71
39	Nanosecond-Timescale Conformational Dynamics of the Human Î±7 Nicotinic Acetylcholine Receptor. Biophysical Journal, 2007, 93, 2622-2634.	0.2	70
40	Mutation causing severe myasthenia reveals functional asymmetry of AChR signature cystine loops in agonist binding and gating. Journal of Clinical Investigation, 2003, 111, 497-505.	3.9	68
41	Ligand-Induced Conformational Change in the Î±7 Nicotinic Receptor Ligand Binding Domain. Biophysical Journal, 2005, 88, 2564-2576.	0.2	67
42	Pairwise Interactions between Neuronal Î±7Acetylcholine Receptors and Î±-Conotoxin ImI. Journal of Biological Chemistry, 1999, 274, 19517-19524.	1.6	63
43	Identification of Residues in the Neuronal Î±7Acetylcholine Receptor That Confer Selectivity for Conotoxin ImI. Journal of Biological Chemistry, 1998, 273, 11001-11006.	1.6	59
44	Naturally Occurring Mutations at the Acetylcholine Receptor Binding Site Independently Alter ACh Binding and Channel Gating. Journal of General Physiology, 2002, 120, 483-496.	0.9	59
45	An Ion Selectivity Filter in the Extracellular Domain of Cys-loop Receptors Reveals Determinants for Ion Conductance. Journal of Biological Chemistry, 2008, 283, 36066-36070.	1.6	54
46	Identification of Equivalent Residues in the Î³, Î´, and Îµ Subunits of the Nicotinic Receptor That Contribute to Î±-Bungarotoxin Binding. Journal of Biological Chemistry, 1997, 272, 23521-23527.	1.6	52
47	Control of Cation Permeation through the Nicotinic Receptor Channel. PLoS Computational Biology, 2008, 4, e41.	1.5	50
48	Congenital myastheniaâ€“related AChR Î´ subunit mutation interferes with intersubunit communication essential for channel gating. Journal of Clinical Investigation, 2008, 118, 1867-1876.	3.9	50
49	Hydrophobic Pairwise Interactions Stabilize Î±-Conotoxin MI in the Muscle Acetylcholine Receptor Binding Site. Journal of Biological Chemistry, 2000, 275, 12692-12700.	1.6	49
50	Congenital Myasthenic Syndromes: Multiple Molecular Targets at the Neuromuscular Junction. Annals of the New York Academy of Sciences, 2003, 998, 138-160.	1.8	49
51	Î±4Î²2 Nicotinic Acetylcholine Receptors. Journal of Biological Chemistry, 2017, 292, 2729-2740.	1.6	48
52	Subunit-Selective Contribution to Channel Gating of the M4 Domain of the Nicotinic Receptor. Biophysical Journal, 2002, 82, 1920-1929.	0.2	47
53	Nicotinic Receptor Interloop Proline Anchors Î²1-Î²2 and Cys loops in Coupling Agonist Binding to Channel Gating. Journal of General Physiology, 2008, 132, 265-278.	0.9	47
54	Residues at the Subunit Interfaces of the Nicotinic Acetylcholine Receptor That Contribute to Î±-Conotoxin M1 Binding. Molecular Pharmacology, 1998, 53, 787-794.	1.0	46

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55	Pairwise Electrostatic Interactions between Î±-Neurotoxins and Î³, Î´, and Îµ Subunits of the Nicotinic Acetylcholine Receptor. Journal of Biological Chemistry, 2000, 275, 5478-5484.	1.6	45
56	Improved resolution of single channel dwell times reveals mechanisms of binding, priming, and gating in muscle AChR. Journal of General Physiology, 2016, 148, 43-63.	0.9	45
57	Curariform Antagonists Bind in Different Orientations to Acetylcholine-binding Protein. Journal of Biological Chemistry, 2003, 278, 23020-23026.	1.6	44
58	Slow-channel mutation in acetylcholine receptor Î±M4 domain and its efficient knockdown. Annals of Neurology, 2006, 60, 128-136.	2.8	44
59	Identification of Residues at the Î± and Îµ Subunit Interfaces Mediating Species Selectivity of Waglerin-1 for Nicotinic Acetylcholine Receptors. Journal of Biological Chemistry, 2002, 277, 5433-5440.	1.6	42
60	Residues in the Îµ Subunit of the Nicotinic Acetylcholine Receptor Interact To Confer Selectivity of Waglerin-1 for the Î±â^Îµ Subunit Interface Siteâ€. Biochemistry, 2002, 41, 7895-7906.	1.2	40
61	Subunit Interface Selectivity of the Î±-Neurotoxins for the Nicotinic Acetylcholine Receptor. Journal of Biological Chemistry, 1999, 274, 9581-9586.	1.6	39
62	Invariant Aspartic Acid in Muscle Nicotinic Receptor Contributes Selectively to the Kinetics of Agonist Binding. Journal of General Physiology, 2004, 124, 555-567.	0.9	39
63	Stoichiometry for Î±-bungarotoxin block of Î±7 acetylcholine receptors. Nature Communications, 2015, 6, 8057.	5.8	39
64	Intramembrane Proton Binding Site Linked to Activation of Bacterial Pentameric Ion Channel. Journal of Biological Chemistry, 2012, 287, 6482-6489.	1.6	38
65	Nicotinic acetylcholine receptors at the singleâ€channel level. British Journal of Pharmacology, 2018, 175, 1789-1804.	2.7	38
66	Single-Channel Kinetic Analysis of Chimeric Î±7â€“5HT3A Receptors. Molecular Pharmacology, 2005, 68, 1475-1483.	1.0	37
67	Solution NMR of Acetylcholine Binding Protein Reveals Agonist-Mediated Conformational Change of the C-Loop. Molecular Pharmacology, 2006, 70, 1230-1235.	1.0	36
68	An Intersubunit Trigger of Channel Gating in the Muscle Nicotinic Receptor. Journal of Neuroscience, 2007, 27, 4110-4119.	1.7	36
69	Molecular-Dynamics Simulations of ELICâ€”a Prokaryotic Homologue of the Nicotinic Acetylcholine Receptor. Biophysical Journal, 2009, 96, 4502-4513.	0.2	36
70	Acetylcholine and Epibatidine Binding to Muscle Acetylcholine Receptors Distinguish between Concerted and Uncoupled Models. Journal of Biological Chemistry, 1999, 274, 19623-19629.	1.6	35
71	Orientation of Î±-Neurotoxin at the Subunit Interfaces of the Nicotinic Acetylcholine Receptorâ€. Biochemistry, 2000, 39, 15388-15398.	1.2	35
72	Functional Relationships between Agonist Binding Sites and Coupling Regions of Homomeric Cys-Loop Receptors. Journal of Neuroscience, 2011, 31, 3662-3669.	1.7	30

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73	Single-Channel Current Through Nicotinic Receptor Produced by Closure of Binding Site C-Loop. Biophysical Journal, 2009, 96, 3582-3590.	0.2	29
74	Identification of Residues in the Adult Nicotinic Acetylcholine Receptor That Confer Selectivity for Curariform Antagonists. Journal of Biological Chemistry, 1997, 272, 30793-30798.	1.6	28
75	Asymmetric Contribution of the Conserved Disulfide Loop to Subunit Oligomerization and Assembly of the Nicotinic Acetylcholine Receptor. Journal of Biological Chemistry, 1996, 271, 31479-31484.	1.6	27
76	REVIEW â– : Molecular Basis of Congenital Myasthenic Syndromes: Mutations in the Acetylcholine Receptor. Neuroscientist, 1998, 4, 185-194.	2.6	27
77	Mechanism of Tacrine Block at Adult Human Muscle Nicotinic Acetylcholine Receptors. Journal of General Physiology, 2002, 120, 369-393.	0.9	27
78	Stoichiometry for drug potentiation of a pentameric ion channel. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 6595-6600.	3.3	26
79	Nicotinic Receptor Transduction Zone: Invariant Arginine Couples toÂMultiple Electron-Rich Residues. Biophysical Journal, 2013, 104, 355-367.	0.2	25
80	On the Origin of Ion Selectivity in the Cys-Loop Receptor Family. Journal of Molecular Neuroscience, 2010, 40, 70-76.	1.1	24
81	Curariform Antagonists Bind in Different Orientations to the Nicotinic Receptor Ligand Binding Domain. Journal of Biological Chemistry, 2003, 278, 32284-32291.	1.6	23
82	Myasthenic syndrome AChRÎ± C-loop mutant disrupts initiation of channel gating. Journal of Clinical Investigation, 2012, 122, 2613-2621.	3.9	23
83	The Spectrum of Congenital Myasthenic Syndromes. Molecular Neurobiology, 2002, 26, 347-367.	1.9	21
84	Morantel Allosterically Enhances Channel Gating of Neuronal Nicotinic Acetylcholine Î±3Î²2 Receptors. Molecular Pharmacology, 2008, 74, 466-475.	1.0	21
85	Congenital myasthenic syndromes: A diverse array of molecular targets. Journal of Neurocytology, 2003, 32, 1017-1037.	1.6	20
86	Potentiation of a neuronal nicotinic receptor via pseudo-agonist site. Cellular and Molecular Life Sciences, 2019, 76, 1151-1167.	2.4	19
87	Toward Atomic-Scale Understanding of Ligand Recognition in the Muscle Nicotinic Receptor. Current Medicinal Chemistry, 2004, 11, 559-567.	1.2	18
88	Congenital Myasthenic Syndromes: New Insights from Molecular Genetic and Patch-Clamp Studiesa. Annals of the New York Academy of Sciences, 1998, 841, 140-156.	1.8	17
89	Inter-residue coupling contributes to high-affinity subtype-selective binding of Î±-bungarotoxin to nicotinic receptors. Biochemical Journal, 2013, 454, 311-321.	1.7	16
90	NACHO and 14-3-3 promote expression of distinct subunit stoichiometries of the Î±4Î²2 acetylcholine receptor. Cellular and Molecular Life Sciences, 2021, 78, 1565-1575.	2.4	14

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91	Mechanistic Diversity Underlying Fast Channel Congenital Myasthenic Syndromes. Annals of the New York Academy of Sciences, 2003, 998, 128-137.	1.8	13
92	Mechanism of calcium potentiation of the Î±7 nicotinic acetylcholine receptor. Journal of General Physiology, 2020, 152, .	0.9	12
93	Investigation of Congenital Myasthenia Reveals Functional Asymmetry of Invariant Acetylcholine Receptor (AChR) Cys-loop Aspartates. Journal of Biological Chemistry, 2016, 291, 3291-3301.	1.6	10
94	Structural basis for Î±-bungarotoxin insensitivity of neuronal nicotinic acetylcholine receptors. Neuropharmacology, 2019, 160, 107660.	2.0	9
95	Full and partial agonists evoke distinct structural changes in opening the muscle acetylcholine receptor channel. Journal of General Physiology, 2018, 150, 713-729.	0.9	8
96	Mutations causing congenital myasthenia reveal principal coupling pathway in the acetylcholine receptor Îµ-subunit. JCI Insight, 2018, 3, .	2.3	8
97	Slowâ€channel myasthenia due to novel mutation in M2 domain of AChR delta subunit. Annals of Clinical and Translational Neurology, 2019, 6, 2066-2078.	1.7	7
98	Structural Basis for Epibatidine Selectivity at Desensitized Nicotinic Receptors. Molecular Pharmacology, 2005, 67, 123-131.	1.0	5
99	A novel fast-channel myasthenia caused by mutation in Î² subunit of AChR reveals subunit-specific contribution of the intracellular M1-M2 linker to channel gating. Experimental Neurology, 2020, 331, 113375.	2.0	5
100	Unmasking coupling between channel gating and ion permeation in the muscle nicotinic receptor. ELife, 2021, 10, .	2.8	5
101	Stoichiometryâ€selective modulation of Î±4Î²2 nicotinic acetylcholine receptors by divalent cations. British Journal of Pharmacology, 2021, , .	2.7	5
102	Alcohol reduces muscle fatigue through atomistic interactions with nicotinic receptors. Communications Biology, 2018, 1, 159.	2.0	4
103	Congenital myasthenic syndromes. , 2004, , 213-226.		2
104	Recent Structural and Mechanistic Insights into Endplate Acetylcholine Receptors. Annals of the New York Academy of Sciences, 2008, 1132, 53-60.	1.8	1
105	Molecular insights into acetylcholine receptor structure and function revealed by mutations causing congenital myasthenic syndromes. Advances in Molecular and Cell Biology, 2004, 32, 95-119.	0.1	0