

# Sarah C R Lummis

## List of Publications by Year in descending order

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83  
papers

3,966  
citations

147566

31  
h-index

123241

61  
g-index

86  
all docs

86  
docs citations

86  
times ranked

3276  
citing authors

#	ARTICLE	IF	CITATIONS
1	Cis- $\alpha$ -trans isomerization at a proline opens the pore of a neurotransmitter-gated ion channel. <i>Nature</i> , 2005, 438, 248-252.	13.7	421
2	The structural basis of function in Cys-loop receptors. <i>Quarterly Reviews of Biophysics</i> , 2010, 43, 449-499.	2.4	308
3	Actions of imidacloprid and a related nitromethylene on cholinergic receptors of an identified insect motor neurone. <i>Pest Management Science</i> , 1991, 33, 197-204.	0.7	263
4	The 5-HT <sub>3</sub> receptor – the relationship between structure and function. <i>Neuropharmacology</i> , 2009, 56, 273-284.	2.0	228
5	The 5-HT <sub>3</sub> receptor as a therapeutic target. <i>Expert Opinion on Therapeutic Targets</i> , 2007, 11, 527-540.	1.5	217
6	The molecular basis of the structure and function of the 5-HT <sub>3</sub> receptor: a model ligand-gated ion channel (Review). <i>Molecular Membrane Biology</i> , 2002, 19, 11-26.	2.0	174
7	A Cation- $\pi$ Binding Interaction with a Tyrosine in the Binding Site of the GABA <sub>A</sub> Receptor. <i>Chemistry and Biology</i> , 2005, 12, 993-997.	6.2	127
8	5-HT <sub>3</sub> Receptors. <i>Journal of Biological Chemistry</i> , 2012, 287, 40239-40245.	1.6	123
9	Pentameric ligand-gated ion channel ELIC is activated by GABA and modulated by benzodiazepines. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, E3028-34.	3.3	120
10	Unnatural Amino Acid Mutagenesis of the GABA <sub>A</sub> Receptor Binding Site Residues Reveals a Novel Cation- $\pi$ Interaction between GABA and $\alpha$ 2Tyr97. <i>Journal of Neuroscience</i> , 2007, 27, 886-892.	1.7	102
11	Prediction of 5-HT <sub>3</sub> Receptor Agonist-Binding Residues Using Homology Modeling. <i>Biophysical Journal</i> , 2003, 84, 2338-2344.	0.2	97
12	Tyrosine Residues That Control Binding and Gating in the 5-Hydroxytryptamine <sub>3</sub> Receptor Revealed by Unnatural Amino Acid Mutagenesis. <i>Journal of Neuroscience</i> , 2004, 24, 9097-9104.	1.7	90
13	Multisite Binding of a General Anesthetic to the Prokaryotic Pentameric <i>Erwinia chrysanthemi</i> Ligand-gated Ion Channel (ELIC). <i>Journal of Biological Chemistry</i> , 2013, 288, 8355-8364.	1.6	90
14	Molecular modeling of the GABA <sub>A</sub> receptor ligand-binding domain. <i>Journal of Molecular Modeling</i> , 2006, 12, 317-324.	0.8	76
15	Structural basis of ligand recognition in 5-HT <sub>3</sub> receptors. <i>EMBO Reports</i> , 2013, 14, 49-56.	2.0	74
16	Locating an Antagonist in the 5-HT <sub>3</sub> Receptor Binding Site Using Modeling and Radioligand Binding. <i>Journal of Biological Chemistry</i> , 2005, 280, 20476-20482.	1.6	69
17	A Cation- $\pi$ Interaction in the Binding Site of the Glycine Receptor Is Mediated by a Phenylalanine Residue. <i>Journal of Neuroscience</i> , 2008, 28, 10937-10942.	1.7	67
18	The nicotinic $\alpha$ 6 subunit gene determines variability in chronic pain sensitivity via cross-inhibition of P2X <sub>2/3</sub> receptors. <i>Science Translational Medicine</i> , 2015, 7, 287ra72.	5.8	59

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19	A single ring of charged amino acids at one end of the pore can control ion selectivity in the 5-HT <sub>3</sub> receptor. <i>British Journal of Pharmacology</i> , 2003, 140, 359-365.	2.7	54
20	Mutagenesis and Molecular Modeling Reveal the Importance of the 5-HT <sub>3</sub> Receptor F-loop. <i>Journal of Biological Chemistry</i> , 2006, 281, 16576-16582.	1.6	52
21	The Role of Tyrosine Residues in the Extracellular Domain of the 5-Hydroxytryptamine <sub>3</sub> Receptor. <i>Journal of Biological Chemistry</i> , 2004, 279, 23294-23301.	1.6	47
22	A Hydrogen Bond in Loop A Is Critical for the Binding and Function of the 5-HT <sub>3</sub> Receptor. <i>Biochemistry</i> , 2008, 47, 6370-6377.	1.2	46
23	A Cation- $\pi$ Interaction at a Phenylalanine Residue in the Glycine Receptor Binding Site Is Conserved for Different Agonists. <i>Molecular Pharmacology</i> , 2011, 79, 742-748.	1.0	43
24	GABA Binding to an Insect GABA Receptor: A Molecular Dynamics and Mutagenesis Study. <i>Biophysical Journal</i> , 2012, 103, 2071-2081.	0.2	43
25	Locating the Carboxylate Group of GABA in the Homomeric rho GABAA Receptor Ligand-binding Pocket. <i>Journal of Biological Chemistry</i> , 2006, 281, 24455-24461.	1.6	39
26	Mutation of the GABAA receptor M1 transmembrane proline increases GABA affinity and reduces barbiturate enhancement. <i>Neuropharmacology</i> , 2002, 42, 502-521.	2.0	37
27	Molecular Properties of 5-Hydroxytryptamine <sub>3</sub> Receptor-Type Binding Sites Purified from NG108-15 Cells. <i>Journal of Neurochemistry</i> , 1992, 59, 1692-1701.	2.1	35
28	Transducing Agonist Binding to Channel Gating Involves Different Interactions in 5-HT <sub>3</sub> and GABAC Receptors. <i>Journal of Biological Chemistry</i> , 2007, 282, 25623-25630.	1.6	35
29	Design, Synthesis, and Structure-Activity Relationships of Highly Potent 5-HT <sub>3</sub> Receptor Ligands. <i>Journal of Medicinal Chemistry</i> , 2012, 55, 8603-8614.	2.9	35
30	Two Amino Acid Residues Contribute to a Cation- $\pi$ Binding Interaction in the Binding Site of an Insect GABA Receptor. <i>Journal of Neuroscience</i> , 2011, 31, 12371-12376.	1.7	34
31	Ginkgolide B and bilobalide block the pore of the 5-HT <sub>3</sub> receptor at a location that overlaps the picrotoxin binding site. <i>Neuropharmacology</i> , 2011, 60, 488-495.	2.0	32
32	FlexStation examination of 5-HT <sub>3</sub> receptor function using Ca <sup>2+</sup> - and membrane potential-sensitive dyes: Advantages and potential problems. <i>Journal of Neuroscience Methods</i> , 2005, 149, 172-177.	1.3	31
33	Molecular Characterization of Agonists That Bind to an Insect GABA Receptor. <i>Biochemistry</i> , 2010, 49, 2897-2902.	1.2	31
34	Defining the roles of Asn-128, Glu-129 and Phe-130 in loop A of the 5-HT <sub>3</sub> receptor. <i>Molecular Membrane Biology</i> , 2006, 23, 442-451.	2.0	29
35	The pharmacological profile of ELIC, a prokaryotic GABA-gated receptor. <i>Neuropharmacology</i> , 2012, 63, 761-767.	2.0	28
36	Snake venom phospholipase A2s exhibit strong virucidal activity against SARS-CoV-2 and inhibit the viral spike glycoprotein interaction with ACE2. <i>Cellular and Molecular Life Sciences</i> , 2021, 78, 7777-7794.	2.4	28

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37	The Prokaryote Ligand-Gated Ion Channel ELIC Captured in a Pore Blocker-Bound Conformation by the Alzheimer's Disease Drug Memantine. <i>Structure</i> , 2014, 22, 1399-1407.	1.6	27
38	Agonists and antagonists induce different palonosetron dissociation rates in 5-HT <sub>3A</sub> and 5-HT <sub>3AB</sub> receptors. <i>Neuropharmacology</i> , 2013, 73, 241-246.	2.0	26
39	Disturbed Neuronal ER-Golgi Sorting of Unassembled Glycine Receptors Suggests Altered Subcellular Processing Is a Cause of Human Hyperekplexia. <i>Journal of Neuroscience</i> , 2015, 35, 422-437.	1.7	26
40	Detection of human and rodent 5-HT <sub>3B</sub> receptor subunits by anti-peptide polyclonal antibodies. <i>BMC Neuroscience</i> , 2006, 7, 27.	0.8	24
41	Palonosetron's 5-HT <sub>3</sub> Receptor Interactions As Shown by a Binding Protein Cocrystal Structure. <i>ACS Chemical Neuroscience</i> , 2016, 7, 1641-1646.	1.7	23
42	Locating GABA in GABA receptor binding sites. <i>Biochemical Society Transactions</i> , 2009, 37, 1343-1346.	1.6	22
43	Structural Requirements in the Transmembrane Domain of GLIC Revealed by Incorporation of Noncanonical Histidine Analogs. <i>Chemistry and Biology</i> , 2014, 21, 1700-1706.	6.2	22
44	An atypical residue in the pore of <i>Varroa destructor</i> GABA-activated RDL receptors affects picrotoxin block and thymol modulation. <i>Insect Biochemistry and Molecular Biology</i> , 2014, 55, 19-25.	1.2	21
45	Cys-Loop Receptor Channel Blockers Also Block GLIC. <i>Biophysical Journal</i> , 2011, 101, 2912-2918.	0.2	20
46	Multiple Tyrosine Residues Contribute to GABA Binding in the GABA <sub>C</sub> Receptor Binding Pocket. <i>ACS Chemical Neuroscience</i> , 2012, 3, 186-192.	1.7	20
47	Varenicline Interactions at the 5-HT <sub>3</sub> Receptor Ligand Binding Site are Revealed by 5-HTBP. <i>ACS Chemical Neuroscience</i> , 2015, 6, 1151-1157.	1.7	20
48	A single amino acid determines the toxicity of <i>Ginkgo biloba</i> extracts. <i>FASEB Journal</i> , 2012, 26, 1884-1891.	0.2	19
49	γ-Aminobutyric Acid Receptor Ionophore Complexes: Differential Effects of Deltamethrin, Dichlorodiphenyltrichloroethane, and Some Novel Insecticides in a Rat Brain Membrane Preparation. <i>Journal of Neurochemistry</i> , 1987, 48, 689-694.	2.1	18
50	Increased γ-Aminobutyric Acid Receptor Function in the Cerebral Cortex of Myoclonic Calves with an Hereditary Deficit in Glycine/Strychnine Receptors. <i>Journal of Neurochemistry</i> , 1990, 55, 421-426.	2.1	17
51	The roles of aromatic residues in the glycine receptor transmembrane domain. <i>BMC Neuroscience</i> , 2018, 19, 53.	0.8	17
52	5-Fluorotryptamine is a partial agonist at 5-HT <sub>3</sub> receptors, and reveals that size and electronegativity at the 5 position of tryptamine are critical for efficient receptor function. <i>European Journal of Pharmacology</i> , 2008, 580, 291-297.	1.7	16
53	Regulation of a pentameric ligand-gated ion channel by a semiconserved cationic lipid-binding site. <i>Journal of Biological Chemistry</i> , 2021, 297, 100899.	1.6	15
54	Exploring a potential palonosetron allosteric binding site in the 5-HT <sub>3</sub> receptor. <i>Bioorganic and Medicinal Chemistry</i> , 2013, 21, 7523-7528.	1.4	14

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55	Insights into the binding of GABA to the insect RDL receptor from atomistic simulations: a comparison of models. <i>Journal of Computer-Aided Molecular Design</i> , 2014, 28, 35-48.	1.3	14
56	Aromatic Residues in the Fourth Transmembrane-Spanning Helix M4 Are Important for GABA <sub>A</sub> Receptor Function. <i>ACS Chemical Neuroscience</i> , 2018, 9, 284-290.	1.7	14
57	Modeling and Mutational Analysis of the Binding Mode for the Multimodal Antidepressant Drug Vortioxetine to the Human 5-HT <sub>3A</sub> Receptor. <i>Molecular Pharmacology</i> , 2018, 94, 1421-1434.	1.0	14
58	Curare alkaloids from Matis Dart Poison: Comparison with d-tubocurarine in interactions with nicotinic, 5-HT <sub>3</sub> serotonin and GABA <sub>A</sub> receptors. <i>PLoS ONE</i> , 2019, 14, e0210182.	1.1	14
59	[N-Methyl-3H]Scopolamine binding sites in the central nervous system of the cockroach <i>Periplaneta americana</i> . <i>Archives of Insect Biochemistry and Physiology</i> , 1986, 3, 339-347.	0.6	13
60	Characterization of Residues in the 5-HT <sub>3</sub> Receptor M4 Region That Contribute to Function. <i>ACS Chemical Neuroscience</i> , 2019, 10, 3167-3172.	1.7	13
61	Mixed antagonistic effects of the ginkgolides at recombinant human $\alpha$ 1 GABA <sub>A</sub> receptors. <i>Neuropharmacology</i> , 2012, 63, 1127-1139.	2.0	12
62	Perturbation of Critical Prolines in <i>Gloeobacter violaceus</i> Ligand-gated Ion Channel (GLIC) Supports Conserved Gating Motions among Cys-loop Receptors. <i>Journal of Biological Chemistry</i> , 2016, 291, 6272-6280.	1.6	12
63	The M4 Helix Is Involved in $\alpha$ 7 nACh Receptor Function. <i>ACS Chemical Neuroscience</i> , 2020, 11, 1406-1412.	1.7	11
64	Structure-Activity Relationships of Quinoxaline-Based 5-HT <sub>3A</sub> and 5-HT <sub>3AB</sub> Receptor-Selective Ligands. <i>ChemMedChem</i> , 2013, 8, 946-955.	1.6	10
65	Proline Residues in the Transmembrane/Extracellular Domain Interface Loops Have Different Behaviors in 5-HT <sub>3</sub> and nACh Receptors. <i>ACS Chemical Neuroscience</i> , 2019, 10, 3327-3333.	1.7	10
66	Subtle Differences among 5-HT <sub>3AC</sub> , 5-HT <sub>3AD</sub> , and 5-HT <sub>3AE</sub> Receptors Are Revealed by Partial Agonists. <i>ACS Chemical Neuroscience</i> , 2017, 8, 1085-1091.	1.7	9
67	Calcium modulation of 5-HT <sub>3</sub> receptor binding and function. <i>Neuropharmacology</i> , 2009, 56, 285-291.	2.0	8
68	The binding characteristics and orientation of a novel radioligand with distinct properties at 5-HT <sub>3A</sub> and 5-HT <sub>3AB</sub> receptors. <i>Neuropharmacology</i> , 2014, 86, 378-388.	2.0	7
69	Crotonic Acid Blocks the <i>Gloeobacter</i> Ligand-Gated Ion Channel (GLIC) via the Extracellular Domain. <i>Biochemistry</i> , 2016, 55, 5947-5951.	1.2	7
70	Probing Proline Residues in the Prokaryotic Ligand-Gated Ion Channel, ELIC. <i>Biochemistry</i> , 2018, 57, 4036-4043.	1.2	7
71	M4, the Outermost Helix, is Extensively Involved in Opening of the $\alpha$ 2 nACh Receptor. <i>ACS Chemical Neuroscience</i> , 2021, 12, 133-139.	1.7	7
72	5-HT <sub>3</sub> Receptor Brain-Type B-Subunits are Differentially Expressed in Heterologous Systems. <i>ACS Chemical Neuroscience</i> , 2015, 6, 1158-1164.	1.7	6

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73	Multiple regions in the extracellular domain of the glycine receptor determine receptor activity. <i>Journal of Biological Chemistry</i> , 2018, 293, 13889-13896.	1.6	6
74	Characterization of a 5-HT <sub>3</sub> â€“ELIC Chimera Revealing the Sites of Action of Modulators. <i>ACS Chemical Neuroscience</i> , 2018, 9, 1409-1415.	1.7	5
75	Identification of Novel Functionally Important Aromatic Residue Interactions in the Extracellular Domain of the Glycine Receptor. <i>Biochemistry</i> , 2018, 57, 4029-4035.	1.2	5
76	A Single Mutation in the Outer Lipid-Facing Helix of a Pentameric Ligand-Gated Ion Channel Affects Channel Function Through a Radially-Propagating Mechanism. <i>Frontiers in Molecular Biosciences</i> , 2021, 8, 644720.	1.6	3
77	The Proton Responsiveness in the Extracellular Domain of GLIC Differs in the Presence of the ELIC Transmembrane Domain. <i>Biochemistry</i> , 2017, 56, 2134-2138.	1.2	2
78	Proline Residues Contribute to Efficient GABA <sub>A</sub> Receptor Function. <i>ACS Chemical Neuroscience</i> , 2020, 11, 4215-4222.	1.7	2
79	Mutations of the nACh Receptor M4 Helix Reveal Different Phenotypes in Different Expression Systems: Could Lipids be Responsible?. <i>Frontiers in Physiology</i> , 2022, 13, .	1.3	2
80	Many Proline Residues in the Extracellular Domain Contribute to Glycine Receptor Function. <i>ACS Chemical Neuroscience</i> , 2020, 11, 2658-2665.	1.7	1
81	Probing residues in the pore-forming (M2) domain of the Cys-loop receptor homologue GLIC reveals some unusual features. <i>Molecular Membrane Biology</i> , 2015, 32, 26-31.	2.0	0
82	The 5-HT <sub>3</sub> Receptor. , 2016, , 1-4.		0
83	The 5-HT <sub>3</sub> Receptor. , 2018, , 5373-5377.		0