

# Gustav Akk

## List of Publications by Year in descending order

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66  
papers

1,840  
citations

236612

25  
h-index

301761

39  
g-index

89  
all docs

89  
docs citations

89  
times ranked

1128  
citing authors

#	ARTICLE	IF	CITATIONS
1	Neurosteroid Access to the GABA <sub>A</sub> Receptor. <i>Journal of Neuroscience</i> , 2005, 25, 11605-11613.	1.7	144
2	Mechanisms of neurosteroid interactions with GABA <sub>A</sub> receptors. , 2007, 116, 35-57.		136
3	Pregnenolone sulfate block of GABA A receptors: mechanism and involvement of a residue in the M2 region of the $\alpha$ subunit. <i>Journal of Physiology</i> , 2001, 532, 673-684.	1.3	121
4	Mutations of the GABA-A Receptor $\alpha$ 1 Subunit M1 Domain Reveal Unexpected Complexity for Modulation by Neuroactive Steroids. <i>Molecular Pharmacology</i> , 2008, 74, 614-627.	1.0	82
5	Neuroactive steroids have multiple actions to potentiate GABA <sub>A</sub> receptors. <i>Journal of Physiology</i> , 2004, 558, 59-74.	1.3	76
6	Multiple functional neurosteroid binding sites on GABA <sub>A</sub> receptors. <i>PLoS Biology</i> , 2019, 17, e3000157.	2.6	76
7	Photoaffinity Labeling with a Neuroactive Steroid Analogue. <i>Journal of Biological Chemistry</i> , 2003, 278, 13196-13206.	1.6	70
8	Activation of GABA <sub>A</sub> receptors containing the $\alpha$ 4 subunit by GABA and pentobarbital. <i>Journal of Physiology</i> , 2004, 556, 387-399.	1.3	56
9	Activation and block of recombinant GABA <sub>A</sub> receptors by pentobarbitone: a single-channel study. <i>British Journal of Pharmacology</i> , 2000, 130, 249-258.	2.7	53
10	The influence of the membrane on neurosteroid actions at GABA <sub>A</sub> receptors. <i>Psychoneuroendocrinology</i> , 2009, 34, S59-S66.	1.3	44
11	Characteristics of concatemeric GABA <sub>A</sub> receptors containing $\alpha$ 4 $\beta$ subunits expressed in <i>Xenopus</i> oocytes. <i>British Journal of Pharmacology</i> , 2012, 165, 2228-2243.	2.7	43
12	Galantamine Activates Muscle-Type Nicotinic Acetylcholine Receptors without Binding to the Acetylcholine-Binding Site. <i>Journal of Neuroscience</i> , 2005, 25, 1992-2001.	1.7	42
13	Natural and Enantiomeric Etiocholanolone Interact with Distinct Sites on the Rat $\alpha$ 1 $\beta$ 2 $\gamma$ 2L GABA <sub>A</sub> Receptor. <i>Molecular Pharmacology</i> , 2007, 71, 1582-1590.	1.0	41
14	Propofol Is an Allosteric Agonist with Multiple Binding Sites on Concatemeric Ternary GABA <sub>A</sub> Receptors. <i>Molecular Pharmacology</i> , 2018, 93, 178-189.	1.0	41
15	Contributions of the non- $\alpha$ subunit residues (loop D) to agonist binding and channel gating in the muscle nicotinic acetylcholine receptor. <i>Journal of Physiology</i> , 2002, 544, 695-705.	1.3	38
16	Multiple Non-Equivalent Interfaces Mediate Direct Activation of GABA <sub>A</sub> Receptors by Propofol. <i>Current Neuropharmacology</i> , 2016, 14, 772-780.	1.4	37
17	$\alpha$ 3- $\alpha$ 4, $\alpha$ 2, and $\alpha$ 1 Subunits Assemble to Produce More Than One Functionally Distinct Receptor Type. <i>Molecular Pharmacology</i> , 2014, 86, 647-656.	1.0	35
18	Applying the Monod-Wyman-Changeux Allosteric Activation Model to Pseudo-“Steady-State Responses from GABA <sub>A</sub> Receptors. <i>Molecular Pharmacology</i> , 2019, 95, 106-119.	1.0	35

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19	Site-specific effects of neurosteroids on GABAA receptor activation and desensitization. <i>ELife</i> , 2020, 9, .	2.8	32
20	Aromatics at the murine nicotinic receptor agonist binding site: mutational analysis of the Î±Y93 and Î±W149 residues. <i>Journal of Physiology</i> , 2001, 535, 729-740.	1.3	30
21	Low doses of ethanol and a neuroactive steroid positively interact to modulate rat GABA A receptor function. <i>Journal of Physiology</i> , 2003, 546, 641-646.	1.3	30
22	GABA Type A Receptor Activation in the Allosteric Coagonist Model Framework: Relationship between EC <sub>50</sub> and Basal Activity. <i>Molecular Pharmacology</i> , 2018, 93, 90-100.	1.0	29
23	Activation and block of mouse muscle-type nicotinic receptors by tetraethylammonium. <i>Journal of Physiology</i> , 2003, 551, 155-168.	1.3	29
24	The Actions of Drug Combinations on the GABA <sub>A</sub> Receptor Manifest as Curvilinear Isoboles of Additivity. <i>Molecular Pharmacology</i> , 2017, 92, 556-563.	1.0	28
25	Mapping two neurosteroid-modulatory sites in the prototypic pentameric ligand-gated ion channel GLIC. <i>Journal of Biological Chemistry</i> , 2018, 293, 3013-3027.	1.6	28
26	Occupation of Either Site for the Neurosteroid Allopregnanolone Potentiates the Opening of the GABA <sub>A</sub> Receptor Induced from Either Transmitter Binding Site. <i>Molecular Pharmacology</i> , 2011, 80, 79-86.	1.0	27
27	Enhanced GABAergic actions resulting from the coapplication of the steroid 3Î±-hydroxy-5Î±-pregnane-11,20-dione (alfaxalone) with propofol or diazepam. <i>Scientific Reports</i> , 2018, 8, 10341.	1.6	26
28	Analysis of GABA <sub>A</sub> Receptor Activation by Combinations of Agonists Acting at the Same or Distinct Binding Sites. <i>Molecular Pharmacology</i> , 2019, 95, 70-81.	1.0	26
29	Structural elements near the C-terminus are responsible for changes in nicotinic receptor gating kinetics following patch excision. <i>Journal of Physiology</i> , 2000, 527, 405-417.	1.3	23
30	Kinetic and Structural Determinants for GABA-A Receptor Potentiation by Neuroactive Steroids. <i>Current Neuropharmacology</i> , 2010, 8, 18-25.	1.4	21
31	Chemogenetic Isolation Reveals Synaptic Contribution of Î³ GABA <sub>A</sub> Receptors in Mouse Dentate Granule Neurons. <i>Journal of Neuroscience</i> , 2018, 38, 8128-8145.	1.7	21
32	Mutational Analysis of the Putative High-Affinity Propofol Binding Site in Human $\alpha 3$ Homomeric GABA <sub>A</sub> Receptors. <i>Molecular Pharmacology</i> , 2015, 88, 736-745.	1.0	20
33	Steady-State Activation and Modulation of the Concatemeric $\alpha 1\alpha 2\alpha 3$ 2L GABA <sub>A</sub> Receptor. <i>Molecular Pharmacology</i> , 2019, 96, 320-329.	1.0	20
34	Hydrogen bonding between the 17Î±-substituent of a neurosteroid and the GABA <sub>A</sub> receptor is not obligatory for channel potentiation. <i>British Journal of Pharmacology</i> , 2009, 158, 1322-1329.	2.7	19
35	Activation and modulation of recombinant glycine and GABA <sub>A</sub> receptors by 4-halogenated analogues of propofol. <i>British Journal of Pharmacology</i> , 2016, 173, 3110-3120.	2.7	19
36	Steady-state activation and modulation of the synaptic-type $\alpha 1\alpha 2\alpha 3$ 2L GABA <sub>A</sub> receptor by combinations of physiological and clinical ligands. <i>Physiological Reports</i> , 2019, 7, e14230.	0.7	17

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37	Ethanol Modulates the Interaction of the Endogenous Neurosteroid Allopregnanolone with the $\alpha 1\beta 2\gamma 2L$ GABAA Receptor. <i>Molecular Pharmacology</i> , 2007, 71, 461-472.	1.0	16
38	Pharmacology of structural changes at the GABA <sub>A</sub> receptor transmitter binding site. <i>British Journal of Pharmacology</i> , 2011, 162, 840-850.	2.7	15
39	Synaptic-Type $\alpha 1\beta 2\gamma 2L$ GABAA Receptors Produce Large Persistent Currents in the Presence of Ambient GABA and Anesthetic Drugs. <i>Molecular Pharmacology</i> , 2015, 87, 776-781.	1.0	15
40	The molecular determinants of neurosteroid binding in the GABA(A) receptor. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2019, 192, 105383.	1.2	14
41	Activation of heteroliganded mouse muscle nicotinic receptors. <i>Journal of Physiology</i> , 2005, 564, 359-376.	1.3	13
42	Structural Studies of the Actions of Anesthetic Drugs on the $\beta 3$ -Aminobutyric Acid Type A Receptor. <i>Anesthesiology</i> , 2011, 115, 1338-1348.	1.3	13
43	Activation and Modulation of Concatemeric GABA-A Receptors Expressed in Human Embryonic Kidney Cells. <i>Molecular Pharmacology</i> , 2009, 75, 1400-1411.	1.0	12
44	11-trifluoromethyl-phenyldiaziriny neurosteroid analogues: potent general anesthetics and photolabeling reagents for GABAA receptors. <i>Psychopharmacology</i> , 2014, 231, 3479-3491.	1.5	12
45	Modulation of the human $\alpha 1$ GABAA receptor by inhibitory steroids. <i>Psychopharmacology</i> , 2014, 231, 3467-3478.	1.5	10
46	Mutations in the Main Cytoplasmic Loop of the GABAA Receptor $\alpha 4$ and $\gamma$ Subunits Have Opposite Effects on Surface Expression. <i>Molecular Pharmacology</i> , 2014, 86, 20-27.	1.0	10
47	Steady-state activation of the high-affinity isoform of the $\alpha 1\beta 2\gamma 2$ GABAA receptor. <i>Scientific Reports</i> , 2019, 9, 15997.	1.6	10
48	Intrasubunit and intersubunit steroid binding sites independently and additively mediate $\alpha 1\beta 2\gamma 2L$ GABA <sub>A</sub> receptor potentiation by the endogenous neurosteroid allopregnanolone. <i>Molecular Pharmacology</i> , 2021, 100, MOLPHARM-AR-2021-000268.	1.0	10
49	Application of the Co-Agonist Concerted Transition Model to Analysis of GABAA Receptor Properties. <i>Current Neuropharmacology</i> , 2019, 17, 843-851.	1.4	9
50	The Sulfated Steroids Pregnenolone Sulfate and Dehydroepiandrosterone Sulfate Inhibit the $\alpha 1\beta 2\gamma 3\beta 3$ GABA <sub>A</sub> Receptor by Stabilizing a Novel Nonconducting State. <i>Molecular Pharmacology</i> , 2022, 101, 68-77.	1.0	9
51	Enhancement of muscimol binding and gating by allosteric modulators of the GABAA receptor: relating occupancy to state functions. <i>Molecular Pharmacology</i> , 2020, 98, MOLPHARM-AR-2020-000066.	1.0	8
52	Comparison of Steroid Modulation of Spontaneous Inhibitory Postsynaptic Currents in Cultured Hippocampal Neurons and Steady-State Single-Channel Currents from Heterologously Expressed $\alpha 1\beta 2\gamma 2\beta 3$ GABA <sub>A</sub> Receptors. <i>Molecular Pharmacology</i> , 2016, 89, 399-406.	1.0	7
53	Enhancement of Muscimol Binding and Gating by Allosteric Modulators of the GABA <sub>A</sub> Receptor: Relating Occupancy to State Functions. <i>Molecular Pharmacology</i> , 2020, 98, 303-313.	1.0	6
54	High Constitutive Activity Accounts for the Combination of Enhanced Direct Activation and Reduced Potentiation in Mutated GABAA Receptors. <i>Molecular Pharmacology</i> , 2018, 93, 468-476.	1.0	5

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55	The E Loop of the Transmitter Binding Site Is a Key Determinant of the Modulatory Effects of Physostigmine on Neuronal Nicotinic $\alpha 4\beta 2$ Receptors. <i>Molecular Pharmacology</i> , 2017, 91, 100-109.	1.0	4
56	Mild chronic perturbation of inhibition severely alters hippocampal function. <i>Scientific Reports</i> , 2019, 9, 16431.	1.6	4
57	Perspective on the relationship between GABAA receptor activity and the apparent potency of an inhibitor. <i>Current Neuropharmacology</i> , 2021, 19, .	1.4	4
58	Assessing potentiation of the $\alpha 4\beta 2$ nicotinic acetylcholine receptor by the allosteric agonist CMPI. <i>Journal of Biological Chemistry</i> , 2022, 298, 101455.	1.6	4
59	Energetic Contributions to Channel Gating of Residues in the Muscle Nicotinic Receptor $\beta 1$ Subunit. <i>PLoS ONE</i> , 2013, 8, e78539.	1.1	3
60	Reduced Activation of the Synaptic-Type GABA <sub>A</sub> Receptor Following Prolonged Exposure to Low Concentrations of Agonists: Relationship between Tonic Activity and Desensitization. <i>Molecular Pharmacology</i> , 2020, 98, 762-769.	1.0	2
61	Analysis of Modulation of the $\beta 1$ GABAA Receptor by Combinations of Inhibitory and Potentiating Neurosteroids Reveals Shared and Distinct Binding Sites. <i>Molecular Pharmacology</i> , 2020, 98, 280-291.	1.0	2
62	Neurosteroid Modulation of GABA <sub>A</sub> Receptor Function by Independent Action at Multiple Specific Binding Sites. <i>Current Neuropharmacology</i> , 2022, 20, 886-890.	1.4	2
63	(+)-Catharanthine potentiates the GABAA receptor by binding to a transmembrane site at the $\beta 2(+)\beta 3(-)$ interface near the TM2-TM3 loop. <i>Biochemical Pharmacology</i> , 2022, 199, 114993.	2.0	2
64	Activation of the Rat $\alpha 1\beta 2\mu$ GABAA Receptor by Orthosteric and Allosteric Agonists. <i>Biomolecules</i> , 2022, 12, 868.	1.8	2
65	Introduced Amino Terminal Epitopes Can Reduce Surface Expression of Neuronal Nicotinic Receptors. <i>PLoS ONE</i> , 2016, 11, e0151071.	1.1	1
66	Activation of the $\alpha 1\beta 2\beta 3\gamma 2L$ GABAA Receptor by Physiological Agonists. <i>Biomolecules</i> , 2021, 11, 1864.	1.8	0