Alexander M Dizhoor

List of Publications by Year
in descending order

80 papers	4,602 citations	87723 38 h-index	102304 66 g-index
82 all docs	82 docs citations	82 times ranked	2340 citing authors

#	Article	IF	Citations
1	Ectopic Expression of a Microbial-Type Rhodopsin Restores Visual Responses in Mice with Photoreceptor Degeneration. Neuron, 2006, 50, 23-33.	3.8	695
2	Cloning, Sequencing, and Expression of a 24-kDa Ca2+-binding Protein Activating Photoreceptor Guanylyl Cyclase. Journal of Biological Chemistry, 1995, 270, 25200-25206.	1.6	301
3	Recoverin immunoreactivity in mammalian cone bipolar cells. Visual Neuroscience, 1993, 10, 1-12.	0.5	293
4	Constitutive Activation of Photoreceptor Guanylate Cyclase by Y99C Mutant of GCAP-1. Journal of Biological Chemistry, 1998, 273, 17311-17314.	1.6	149
5	Three-dimensional Structure of Guanylyl Cyclase Activating Protein-2, a Calcium-sensitive Modulator of Photoreceptor Guanylyl Cyclases. Journal of Biological Chemistry, 1999, 274, 19329-19337.	1.6	143
6	The Membrane Guanylyl Cyclase, Retinal Guanylyl Cyclase-1, Is Activated through Its Intracellular Domain. Journal of Biological Chemistry, 1996, 271, 11646-11651.	1.6	134
7	Calcium Binding, but Not a Calcium-Myristoyl Switch, Controls the Ability of Guanylyl Cyclase-activating Protein GCAP-2 to Regulate Photoreceptor Guanylyl Cyclase. Journal of Biological Chemistry, 1997, 272, 14327-14333.	1.6	131
8	Ca2+ and Mg2+ Binding Properties of GCAP-1. Journal of Biological Chemistry, 2006, 281, 23830-23841.	1.6	101
9	Mg2+/Ca2+ cation binding cycle of guanylyl cyclase activating proteins (GCAPs): role in regulation of photoreceptor guanylyl cyclase. Molecular and Cellular Biochemistry, 2010, 334, 117-124.	1.4	100
10	The Y99C Mutation in Guanylyl Cyclase-Activating Protein 1 Increases Intracellular Ca2+ and Causes Photoreceptor Degeneration in Transgenic Mice. Journal of Neuroscience, 2004, 24, 6078-6085.	1.7	95
11	Inactivation of EF-hands Makes GCAP-2 (p24) a Constitutive Activator of Photoreceptor Guanylyl Cyclase by Preventing a Ca2+-induced â€œActivator-to-Inhibitorâ€•Transition. Journal of Biological Chemistry, 1996, 271, 19346-19350.	1.6	90
12	Guanylyl Cyclase-activating Proteins (GCAPs) Are Ca2+/Mg2+ Sensors. Journal of Biological Chemistry, 2004, 279, 16903-16906.	1.6	90
13	Determining consequences of retinal membrane guanylyl cyclase (RetGC1) deficiency in human Leber congenital amaurosis en route to therapy: residual cone-photoreceptor vision correlates with biochemical properties of the mutants. Human Molecular Genetics, 2013, 22, 168-183.	1.4	89
14	Dimerization of Guanylyl Cyclase-activating Protein and a Mechanism of Photoreceptor Guanylyl Cyclase Activation. Journal of Biological Chemistry, 1999, 274, 25583-25587.	1.6	86
15	Enzymatic Properties and Regulation of the Native Isozymes of Retinal Membrane Guanylyl Cyclase (RetGC) from Mouse Photoreceptors. Biochemistry, 2011, 50, 5590-5600.	1.2	83
16	Instead of Binding Calcium, One of the EF-hand Structures in Guanylyl Cyclase Activating Protein-2 Is Required for Targeting Photoreceptor Guanylyl Cyclase. Journal of Biological Chemistry, 2001, 276, 48143-48148.	1.6	78
17	Detailed Localization of Photoreceptor Guanylate Cyclase Activating Protein-1 and -2 in Mammalian Retinas using Light and Electron Microscopy. Experimental Eye Research, 1999, 68, 465-473.	1.2	76
18	A Role for GCAP2 in Regulating the Photoresponse. Journal of Biological Chemistry, 2008, 283, 29135-29143.	1.6	74

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19	Effects of Ca²⁺, Mg²⁺, and Myristoylation on Guanylyl Cyclase Activating Protein 1 Structure and Stability. Biochemistry, 2009, 48, 850-862.	1.2	67
20	Activation of Retinal Guanylyl Cyclase-1 by Ca2+-binding Proteins Involves Its Dimerization. Journal of Biological Chemistry, 1999, 274, 15547-15555.	1.6	66
21	Regulation of cGMP synthesis in photoreceptors: role in signal transduction and congenital diseases of the retina. Cellular Signalling, 2000, 12, 711-719.	1.7	65
22	Regulation of Photoreceptor Membrane Guanylyl Cyclases by Guanylyl Cyclase Activator Proteins. Methods, 1999, 19, 521-531.	1.9	64
23	cGMP Accumulation Causes Photoreceptor Degeneration in CNG Channel Deficiency: Evidence of cGMP Cytotoxicity Independently of Enhanced CNG Channel Function. Journal of Neuroscience, 2013, 33, 14939-14948.	1.7	64
24	Activation and Inhibition of Photoreceptor Guanylyl Cyclase by Guanylyl Cyclase Activating Protein 1 (GCAP-1). Journal of Biological Chemistry, 2007, 282, 21645-21652.	1.6	60
25	AAV-Mediated Gene Therapy in the Guanylate Cyclase (RetGC1/RetGC2) Double Knockout Mouse Model of Leber Congenital Amaurosis. Human Gene Therapy, 2013, 24, 189-202.	1.4	60
26	Modulation of Phosphodiesterase6 Turnoff during Background Illumination in Mouse Rod Photoreceptors. Journal of Neuroscience, 2008, 28, 2064-2074.	1.7	59
27	Mapping Sites in Guanylyl Cyclase Activating Protein-1 Required for Regulation of Photoreceptor Membrane Guanylyl Cyclases. Journal of Biological Chemistry, 1999, 274, 10833-10839.	1.6	58
28	Constitutive Excitation by Gly90Asp Rhodopsin Rescues Rods from Degeneration Caused by Elevated Production of cGMP in the Dark. Journal of Neuroscience, 2007, 27, 8805-8815.	1.7	58
29	Enzymatic Relay Mechanism Stimulates Cyclic GMP Synthesis in Rod Photoresponse: Biochemical and Physiological Study in Guanylyl Cyclase Activating Protein 1 Knockout Mice. PLoS ONE, 2012, 7, e47637.	1.1	53
30	Mapping Functional Domains of the Guanylate Cyclase Regulator Protein, GCAP-2. Journal of Biological Chemistry, 1999, 274, 10823-10832.	1.6	48
31	Factors that Determine Ca2+Sensitivity of Photoreceptor Guanylyl Cyclase. Kinetic Analysis of the Interaction between the Ca2+-Bound and the Ca2+-Free Guanylyl Cyclase Activating Proteins (GCAPs) and Recombinant Photoreceptor Guanylyl Cyclase 1 (RetGC-1)â€. Biochemistry, 2004, 43, 13796-13804.	1.2	48
32	Title is missing!. Molecular and Cellular Biochemistry, 2002, 230, 139-147.	1.4	46
33	Long-term RNA interference gene therapy in a dominant retinitis pigmentosa mouse model. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18476-18481.	3.3	46
34	Ca²⁺â€dependent conformational changes in bovine GCAPâ€2. Protein Science, 1998, 7, 2675-2680.	3.1	45
35	Retinal Guanylyl Cyclase Isozyme 1 Is the PreferentialIn VivoTarget for Constitutively Active GCAP1 Mutants Causing Congenital Degeneration of Photoreceptors. Journal of Neuroscience, 2012, 32, 7208-7217.	1.7	44
36	Binding of Guanylyl Cyclase Activating Protein 1 (GCAP1) to Retinal Guanylyl Cyclase (RetGC1). Journal of Biological Chemistry, 2008, 283, 21747-21757.	1.6	43

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37	Retinal Degeneration 3 (RD3) Protein Inhibits Catalytic Activity of Retinal Membrane Guanylyl Cyclase (RetGC) and Its Stimulation by Activating Proteins. Biochemistry, 2011, 50, 9511-9519.	1.2	42
38	Calcium-Myristoyl Tug Is a New Mechanism for Intramolecular Tuning of Calcium Sensitivity and Target Enzyme Interaction for Guanylyl Cyclase-activating Protein 1. Journal of Biological Chemistry, 2012, 287, 13972-13984.	1.6	42
39	Night Blindness and the Mechanism of Constitutive Signaling of Mutant G90D Rhodopsin. Journal of Neuroscience, 2008, 28, 11662-11672.	1.7	40
40	Optogenetic Approaches to Restoring Vision. Annual Review of Vision Science, 2015, 1, 185-210.	2.3	39
41	Gene Therapy Fully Restores Vision to the All-Cone Nrl^{â^'/â^'}Gucy2e^{â^'/â^'} Mouse Model of Leber Congenital Amaurosis-1. Human Gene Therapy, 2015, 26, 575-592.	1.4	38
42	Membrane guanylyl cyclase complexes shape the photoresponses of retinal rods and cones. Frontiers in Molecular Neuroscience, 2014, 7, 45.	1.4	36
43	Evaluating the Role of Retinal Membrane Guanylyl Cyclase 1 (RetGC1) Domains in Binding Guanylyl Cyclase-activating Proteins (GCAPs). Journal of Biological Chemistry, 2015, 290, 6913-6924.	1.6	34
44	Structural diversity of neuronal calcium sensor proteins and insights for activation of retinal guanylyl cyclase by GCAP1. Frontiers in Molecular Neuroscience, 2014, 7, 19.	1.4	32
45	Dimerization Domain of Retinal Membrane Guanylyl Cyclase 1 (RetGC1) Is an Essential Part of Guanylyl Cyclase-activating Protein (GCAP) Binding Interface. Journal of Biological Chemistry, 2015, 290, 19584-19596.	1.6	29
46	A G86R mutation in the calcium-sensor protein GCAP1 alters regulation of retinal guanylyl cyclase and causes dominant cone-rod degeneration. Journal of Biological Chemistry, 2019, 294, 3476-3488.	1.6	29
47	Activation of Retinal Guanylyl Cyclase RetGC1 by GCAP1: Stoichiometry of Binding and Effect of New LCA-Related Mutations. Biochemistry, 2010, 49, 709-717.	1.2	28
48	Identification of Target Binding Site in Photoreceptor Guanylyl Cyclase-activating Protein 1 (GCAP1). Journal of Biological Chemistry, 2014, 289, 10140-10154.	1.6	28
49	Functional Study and Mapping Sites for Interaction with the Target Enzyme in Retinal Degeneration 3 (RD3) Protein. Journal of Biological Chemistry, 2016, 291, 19713-19723.	1.6	27
50	Factors that affect regulation of cGMP synthesis in vertebrate photoreceptors and their genetic link to human retinal degeneration. Molecular and Cellular Biochemistry, 2002, 230, 139-47.	1.4	27
51	Structure of Guanylyl Cyclase Activator Protein 1 (GCAP1) Mutant V77E in a Ca2+-free/Mg2+-bound Activator State. Journal of Biological Chemistry, 2016, 291, 4429-4441.	1.6	26
52	The R838S Mutation in Retinal Guanylyl Cyclase 1 (RetGC1) Alters Calcium Sensitivity of cGMP Synthesis in the Retina and Causes Blindness in Transgenic Mice. Journal of Biological Chemistry, 2016, 291, 24504-24516.	1.6	25
53	GUCY2D Coneâ€"Rod Dystrophy-6 Is a â€œPhototransduction Diseaseâ€•Triggered by Abnormal Calcium Feedback on Retinal Membrane Guanylyl Cyclase 1. Journal of Neuroscience, 2018, 38, 2990-3000.	1.7	24
54	Retinal guanylyl cyclase activating protein 1 forms a functional dimer. PLoS ONE, 2018, 13, e0193947.	1.1	23

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55	Safety and improved efficacy signals following gene therapy in childhood blindness caused by GUCY2D mutations. IScience, 2021, 24, 102409.	1.9	22
56	Effects of Low AIPL1 Expression on Phototransduction in Rods. , 2006, 47, 2185.		19
57	Structural Insights for Activation of Retinal Guanylate Cyclase by GCAP1. PLoS ONE, 2013, 8, e81822.	1.1	19
58	Ca2+-dependent Conformational Changes in Guanylyl Cyclase-activating Protein 2 (GCAP-2) Revealed by Site-specific Phosphorylation and Partial Proteolysis. Journal of Biological Chemistry, 2004, 279, 50342-50349.	1.6	18
59	Guanylate cyclaseâ€“activating protein 2 contributes to phototransduction and light adaptation in mouse cone photoreceptors. Journal of Biological Chemistry, 2018, 293, 7457-7465.	1.6	16
60	Ceramide Kinase-Like (CERKL) Interacts with Neuronal Calcium Sensor Proteins in the Retina in a Cation-Dependent Manner. , 2012, 53, 4565.		15
61	[46] Heterologous expression and assays for photoreceptor guanylyl cyclases and guanylyl cyclase activating proteins. Methods in Enzymology, 2000, 315, 708-717.	0.4	12
62	GCAP1, Rab6, and HSP27: Novel Autoantibody Targets in Cancer-Associated Retinopathy and Autoimmune Retinopathy. Translational Vision Science and Technology, 2016, 5, 1.	1.1	12
63	Regulation of retinal membrane guanylyl cyclase (RetGC) by negative calcium feedback and RD3 protein. Pflugers Archiv European Journal of Physiology, 2021, 473, 1393-1410.	1.3	12
64	The binding of G proteins to immobilized delipidated rhodopsin. Biochemical and Biophysical Research Communications, 1989, 162, 544-549.	1.0	10
65	Retinal degeneration 3 (RD3) protein, a retinal guanylyl cyclase regulator, forms a monomeric and elongated four-helix bundle. Journal of Biological Chemistry, 2019, 294, 2318-2328.	1.6	10
66	Interaction of GCAP1 with retinal guanylyl cyclase and calcium: sensitivity to fatty acylation. Frontiers in Molecular Neuroscience, 2012, 5, 19.	1.4	9
67	Retinal guanylyl cyclase activation by calcium sensor proteins mediates photoreceptor degeneration in an rd3 mouse model of congenital human blindness. Journal of Biological Chemistry, 2019, 294, 13729-13739.	1.6	9
68	GUCY2D mutations in retinal guanylyl cyclase 1 provide biochemical reasons for dominant coneâ€“rod dystrophy but not for stationary night blindness. Journal of Biological Chemistry, 2020, 295, 18301-18315.	1.6	9
69	Retinal degeneration-3 protein promotes photoreceptor survival by suppressing activation of guanylyl cyclase rather than accelerating GMP recycling. Journal of Biological Chemistry, 2021, 296, 100362.	1.6	6
70	Increased Light Exposure Alleviates One Form of Photoreceptor Degeneration Marked by Elevated Calcium in the Dark. PLoS ONE, 2009, 4, e8438.	1.1	5
71	Interaction of retinal guanylate cyclase with the Î± subunit of transducin: potential role in transducin localization. Biochemical Journal, 2009, 417, 803-812.	1.7	5
72	Retinal degeneration-3 protein attenuates photoreceptor degeneration in transgenic mice expressing dominant mutation of human retinal guanylyl cyclase. Journal of Biological Chemistry, 2021, 297, 101201.	1.6	5

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73	Site-Directed and Natural Mutations in Studying Functional Domains in Guanylyl Cyclase Activating Proteins (GCAPs). Advances in Experimental Medicine and Biology, 2002, 514, 291-301.	0.8	5
74	Two clusters of surface-exposed amino acid residues enable high-affinity binding of retinal degeneration-3 (RD3) protein to retinal guanylyl cyclase. Journal of Biological Chemistry, 2020, 295, 10781-10793.	1.6	5
75	Backbone 1H, 13C, and 15N resonance assignments of guanylyl cyclase activating protein-1, GCAP1. Biomolecular NMR Assignments, 2013, 7, 39-42.	0.4	4
76	Chemical shift assignments of retinal degeneration 3 protein (RD3). Biomolecular NMR Assignments, 2018, 12, 167-170.	0.4	2
77	Functional study of two biochemically unusual mutations in Leber congenital amaurosis expressed via adenoassociated virus vector in mouse retinas. Molecular Vision, 2016, 22, 1342-1351.	1.1	1
78	Factors that affect regulation of cGMP synthesis in vertebrate photoreceptors and their genetic link to human retinal degeneration. , 2002, , 139-147.		0
79	GCAP1. The AFCS-nature Molecule Pages, 0, , .	0.2	0
80	GCAP2. The AFCS-nature Molecule Pages, 0, , .	0.2	0