Vadim Y Arshavsky

List of Publications by Year
in descending order

100 papers	6,921 citations	57758 44 h-index	69250 77 g-index
104 all docs	104 docs citations	104 times ranked	4788 citing authors

#	Article	IF	Citations
1	G Proteins and Phototransduction. Annual Review of Physiology, 2002, 64, 153-187.	13.1	593
2	Massive Light-Driven Translocation of Transducin between the Two Major Compartments of Rod Cells. Neuron, 2002, 34, 95-106.	8.1	334
3	RGS Expression Rate-Limits Recovery of Rod Photoresponses. Neuron, 2006, 51, 409-416.	8.1	244
4	Microglial Function Is Distinct in Different Anatomical Locations during Retinal Homeostasis and Degeneration. Immunity, 2019, 50, 723-737.e7.	14.3	235
5	Beyond Counting Photons: Trials and Trends in Vertebrate Visual Transduction. Neuron, 2005, 48, 387-401.	8.1	226
6	RPGR Isoforms in Photoreceptor Connecting Cilia and the Transitional Zone of Motile Cilia. , 2003, 44, 2413.		205
7	Light-driven translocation of signaling proteins in vertebrate photoreceptors. Trends in Cell Biology, 2006, 16, 560-568.	7.9	202
8	Role for the Target Enzyme in Deactivation of Photoreceptor G Protein in Vivo. , 1998, 282, 117-121.		180
9	The Gain of Rod Phototransduction. Neuron, 2000, 27, 525-537.	8.1	176
10	Photoreceptor Signaling: Supporting Vision across a Wide Range of Light Intensities. Journal of Biological Chemistry, 2012, 287, 1620-1626.	3.4	176
11	Protein sorting, targeting and trafficking in photoreceptor cells. Progress in Retinal and Eye Research, 2013, 36, 24-51.	15.5	167
12	Defects in RGS9 or its anchor protein R9AP in patients with slow photoreceptor deactivation. Nature, 2004, 427, 75-78.	27.8	159
13	R7BP, a Novel Neuronal Protein Interacting with RGS Proteins of the R7 Family. Journal of Biological Chemistry, 2005, 280, 5133-5136.	3.4	136
14	Arrestin Translocation Is Induced at a Critical Threshold of Visual Signaling and Is Superstoichiometric to Bleached Rhodopsin. Journal of Neuroscience, 2006, 26, 1146-1153.	3.6	135
15	Photoreceptor discs form through peripherin-dependent suppression of ciliary ectosome release. Journal of Cell Biology, 2017, 216, 1489-1499.	5.2	118
16	The DEP Domain Determines Subcellular Targeting of the GTPase Activating Protein RGS9<i>In Vivo</i>. Journal of Neuroscience, 2003, 23, 10175-10181.	3.6	113
17	Phosducin Facilitates Light-driven Transducin Translocation in Rod Photoreceptors. Journal of Biological Chemistry, 2004, 279, 19149-19156.	3.4	108
18	Structure and function of the visual arrestin oligomer. EMBO Journal, 2007, 26, 1726-1736.	7.8	104

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19	Automatic segmentation of up to ten layer boundaries in SD-OCT images of the mouse retina with and without missing layers due to pathology. Biomedical Optics Express, 2014, 5, 348.	2.9	104
20	Recoverin Improves Rod-Mediated Vision by Enhancing Signal Transmission in the Mouse Retina. Neuron, 2005, 46, 413-420.	8.1	101
21	Discs of mammalian rod photoreceptors form through the membrane evagination mechanism. Journal of Cell Biology, 2015, 211, 495-502.	5.2	96
22	Lifetime Regulation of G Proteinâ€"Effector Complex: Emerging Importance of RGS Proteins. Neuron, 1998, 20, 11-14.	8.1	95
23	Recoverin Undergoes Light-dependent Intracellular Translocation in Rod Photoreceptors. Journal of Biological Chemistry, 2005, 280, 29250-29255.	3.4	95
24	Proteasome overload is a common stress factor in multiple forms of inherited retinal degeneration. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9986-9991.	7.1	94
25	Rod Vision Is Controlled by Dopamine-Dependent Sensitization of Rod Bipolar Cells by GABA. Neuron, 2011, 72, 101-110.	8.1	93
26	Absence of the RGS9Â·GÎ²5 GTPase-activating Complex in Photoreceptors of the R9AP Knockout Mouse. Journal of Biological Chemistry, 2004, 279, 1581-1584.	3.4	90
27	Transducin Î³-Subunit Sets Expression Levels of Î±- and Î²-Subunits and Is Crucial for Rod Viability. Journal of Neuroscience, 2008, 28, 3510-3520.	3.6	86
28	The outer segment serves as a default destination for the trafficking of membrane proteins in photoreceptors. Journal of Cell Biology, 2008, 183, 485-498.	5.2	83
29	Transducin Translocation in Rods Is Triggered by Saturation of the GTPase-Activating Complex. Journal of Neuroscience, 2007, 27, 1151-1160.	3.6	80
30	Ankyrin-G Promotes Cyclic Nucleotideâ€"Gated Channel Transport to Rod Photoreceptor Sensory Cilia. Science, 2009, 323, 1614-1617.	12.6	70
31	Comprehensive identification of mRNA isoforms reveals the diversity of neural cell-surface molecules with roles in retinal development and disease. Nature Communications, 2020, 11, 3328.	12.8	69
32	An Effector Site That Stimulates G-protein GTPase in Photoreceptors. Journal of Biological Chemistry, 1995, 270, 14319-14324.	3.4	67
33	Specific Binding of RGS9-GÎ²5L to Protein Anchor in Photoreceptor Membranes Greatly Enhances Its Catalytic Activity. Journal of Biological Chemistry, 2002, 277, 24376-24381.	3.4	67
34	Increased proteasomal activity supports photoreceptor survival in inherited retinal degeneration. Nature Communications, 2018, 9, 1738.	12.8	65
35	The Effector Enzyme Regulates the Duration of G Protein Signaling in Vertebrate Photoreceptors by Increasing the Affinity between Transducin and RGS Protein. Journal of Biological Chemistry, 2000, 275, 32716-32720.	3.4	63
36	RGS9-GÎ²5 Substrate Selectivity in Photoreceptors. Journal of Biological Chemistry, 2001, 276, 37365-37372.	3.4	59

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37	Rhodopsin phosphorylation: from terminating single photon responses to photoreceptor dark adaptation. Trends in Neurosciences, 2002, 25, 124-126.	8.6	58
38	Two Temporal Phases of Light Adaptation in Retinal Rods. Journal of General Physiology, 2002, 119, 129-146.	1.9	56
39	Advancing Clinical Trials for Inherited Retinal Diseases: Recommendations from the Second Monaciano Symposium. Translational Vision Science and Technology, 2020, 9, 2.	2.2	56
40	Current understanding of signal amplification in phototransduction. Cellular Logistics, 2014, 4, e29390.	0.9	55
41	Onset of Feedback Reactions Underlying Vertebrate Rod Photoreceptor Light Adaptation. Journal of General Physiology, 1998, 111, 39-51.	1.9	54
42	Ubiquitylation of the Transducin Î²Î³ Subunit Complex. Journal of Biological Chemistry, 2002, 277, 44566-44575.	3.4	54
43	Like Night and Day. Neuron, 2002, 36, 1-3.	8.1	54
44	Mechanistic Basis for the Failure of Cone Transducin to Translocate: Why Cones Are Never Blinded by Light. Journal of Neuroscience, 2010, 30, 6815-6824.	3.6	54
45	Dimerization deficiency of enigmatic retinitis pigmentosa-linked rhodopsin mutants. Nature Communications, 2016, 7, 12832.	12.8	54
46	Facilitative glucose transporter Glut1 is actively excluded from rod outer segments. Journal of Cell Science, 2010, 123, 3639-3644.	2.0	53
47	Proteomic Identification of Unique Photoreceptor Disc Components Reveals the Presence of PRCD, a Protein Linked to Retinal Degeneration. Journal of Proteome Research, 2013, 12, 3010-3018.	3.7	53
48	Photoreceptor Discs: Built Like Ectosomes. Trends in Cell Biology, 2020, 30, 904-915.	7.9	50
49	Heparan Sulfate, Including That in Bruchâ€™s Membrane, Inhibits the Complement Alternative Pathway: Implications for Age-Related Macular Degeneration. Journal of Immunology, 2010, 185, 5486-5494.	0.8	45
50	PRCD is essential for high-fidelity photoreceptor disc formation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13087-13096.	7.1	44
51	The Regulation of the cGMP-binding cGMP Phosphodiesterase by Proteins That Are Immunologically Related to Î³ Subunit of the Photoreceptor cGMP Phosphodiesterase. Journal of Biological Chemistry, 1997, 272, 18397-18403.	3.4	43
52	Photoreceptor disc membranes are formed through an Arp2/3-dependent lamellipodium-like mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 27043-27052.	7.1	43
53	Phosducin Regulates Transmission at thePhotoreceptor-to-ON-Bipolar Cell Synapse. Journal of Neuroscience, 2010, 30, 3239-3253.	3.6	42
54	What are the mechanisms of photoreceptor adaptation?. Behavioral and Brain Sciences, 1995, 18, 415-424.	0.7	41

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55	Specificity of G Protein-RGS Protein Recognition Is Regulated by Affinity Adapters. Neuron, 2003, 38, 857-862.	8.1	41
56	Integrating energy calculations with functional assays to decipher the specificity of G proteinâ€"RGS protein interactions. Nature Structural and Molecular Biology, 2011, 18, 846-853.	8.2	41
57	Disrupted Blood-Retina Lysophosphatidylcholine Transport Impairs Photoreceptor Health But Not Visual Signal Transduction. Journal of Neuroscience, 2019, 39, 9689-9701.	3.6	38
58	CNG-Modulin: A Novel Ca-Dependent Modulator of Ligand Sensitivity in Cone Photoreceptor cGMP-Gated Ion Channels. Journal of Neuroscience, 2012, 32, 3142-3153.	3.6	37
59	Electrostatic and Lipid Anchor Contributions to the Interaction of Transducin with Membranes. Journal of Biological Chemistry, 2008, 283, 31197-31207.	3.4	36
60	A Single Valine Residue Plays an Essential Role in Peripherin/rds Targeting to Photoreceptor Outer Segments. PLoS ONE, 2013, 8, e54292.	2.5	36
61	Interaction Sites of the COOH-terminal Region of the Î³ Subunit of cGMP Phosphodiesterase with the GTP-bound Î± Subunit of Transducin. Journal of Biological Chemistry, 1996, 271, 26900-26907.	3.4	35
62	[35] Enzymology of GTPase acceleration in phototransduction. Methods in Enzymology, 2000, 315, 524-538.	1.0	31
63	Phosphorylation of Non-bleached Rhodopsin in Intact Retinas and Living Frogs. Journal of Biological Chemistry, 1996, 271, 19826-19830.	3.4	30
64	Phosducin Regulates the Expression of Transducin Î²Î³ Subunits in Rod Photoreceptors and Does Not Contribute to Phototransduction Adaptation. Journal of General Physiology, 2007, 130, 303-312.	1.9	30
65	Guanylate cyclase 1 relies on rhodopsin for intracellular stability and ciliary trafficking. ELife, 2015, 4, .	6.0	30
66	Regulator of G-protein Signaling-21 (RGS21) Is an Inhibitor of Bitter Gustatory Signaling Found in Lingual and Airway Epithelia. Journal of Biological Chemistry, 2012, 287, 41706-41719.	3.4	28
67	Progressive Rodâ€"Cone Degeneration (PRCD) Protein Requires N-Terminal S-Acylation and Rhodopsin Binding for Photoreceptor Outer Segment Localization and Maintaining Intracellular Stability. Biochemistry, 2016, 55, 5028-5037.	2.5	28
68	Functional comparison of RGS9 splice isoforms in a living cell. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20988-20993.	7.1	27
69	Loss of Arf4 causes severe degeneration of the exocrine pancreas but not cystic kidney disease or retinal degeneration. PLoS Genetics, 2017, 13, e1006740.	3.5	27
70	Sulfhydryl-Reactive, Cleavable, and Radioiodinatable Benzophenone Photoprobes for Study of Proteinâˆ'Protein Interaction. Bioconjugate Chemistry, 2005, 16, 685-693.	3.6	26
71	The Relationship between Slow Photoresponse Recovery Rate and Temporal Resolution of Vision. Journal of Neuroscience, 2012, 32, 14364-14373.	3.6	26
72	Photoreceptor Light Adaptation. Journal of General Physiology, 2000, 116, 791-794.	1.9	25

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73	Noncatalytic Domains of RGS9-1Â·GÎ²5L Play a Decisive Role in Establishing Its Substrate Specificity. Journal of Biological Chemistry, 2002, 277, 32843-32848.	3.4	23
74	Dopamine-Dependent Sensitization of Rod Bipolar Cells by GABA Is Conveyed through Wide-Field Amacrine Cells. Journal of Neuroscience, 2018, 38, 723-732.	3.6	21
75	The N Terminus of GTPÎ³S-activated Transducin Î±-Subunit Interacts with the C Terminus of the cGMP Phosphodiesterase Î³-Subunit. Journal of Biological Chemistry, 2006, 281, 6194-6202.	3.4	20
76	Direct Allosteric Regulation between the GAF Domain and Catalytic Domain of Photoreceptor Phosphodiesterase PDE6. Journal of Biological Chemistry, 2008, 283, 29699-29705.	3.4	20
77	Membrane Attachment Is Key to Protecting Transducin GTPase-Activating Complex from Intracellular Proteolysis in Photoreceptors. Journal of Neuroscience, 2011, 31, 14660-14668.	3.6	19
78	Phosphoinositide Profile of the Mouse Retina. Cells, 2020, 9, 1417.	4.1	17
79	Phosphorylation of G Protein-coupled Receptor Kinase 1 (GRK1) Is Regulated by Light but Independent of Phototransduction in Rod Photoreceptors. Journal of Biological Chemistry, 2011, 286, 20923-20929.	3.4	16
80	R9AP targeting to rod outer segments is independent of rhodopsin and is guided by the SNARE homology domain. Molecular Biology of the Cell, 2014, 25, 2644-2649.	2.1	16
81	Multimodal Coherent Imaging of Retinal Biomarkers of Alzheimerâ€™s Disease in a Mouse Model. Scientific Reports, 2020, 10, 7912.	3.3	16
82	Deletion of the phosphatase INPP5E in the murine retina impairs photoreceptor axoneme formation and prevents disc morphogenesis. Journal of Biological Chemistry, 2021, 296, 100529.	3.4	15
83	Analyzing spatial correlations in tissue using angle-resolved low coherence interferometry measurements guided by co-located optical coherence tomography. Biomedical Optics Express, 2016, 7, 1400.	2.9	14
84	C8ORF37 Is Required for Photoreceptor Outer Segment Disc Morphogenesis by Maintaining Outer Segment Membrane Protein Homeostasis. Journal of Neuroscience, 2018, 38, 3160-3176.	3.6	14
85	TMEM67, TMEM237, and Embigin in Complex With Monocarboxylate Transporter MCT1 Are Unique Components of the Photoreceptor Outer Segment Plasma Membrane. Molecular and Cellular Proteomics, 2021, 20, 100088.	3.8	14
86	Photoreceptor Disc Enclosure Is Tightly Controlled by Peripherin-2 Oligomerization. Journal of Neuroscience, 2021, 41, 3588-3596.	3.6	14
87	Kinetic Approaches to Study the Function of RGS9 Isoforms. Methods in Enzymology, 2004, 390, 196-209.	1.0	12
88	Photoreceptor Disc Enclosure Occurs in the Absence of Normal Peripherin-2/rds Oligomerization. Frontiers in Cellular Neuroscience, 2020, 14, 92.	3.7	12
89	Photoreceptors in a mouse model of Leigh syndrome are capable of normal light-evoked signaling. Journal of Biological Chemistry, 2019, 294, 12432-12443.	3.4	11
90	Highly photostable fluorescent labeling of proteins in live cells using exchangeable coiled coils heterodimerization. Cellular and Molecular Life Sciences, 2020, 77, 4429-4440.	5.4	10

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91	The GARP Domain of the Rod CNG Channel's Î²1-Subunit Contains Distinct Sites for Outer Segment Targeting and Connecting to the Photoreceptor Disk Rim. Journal of Neuroscience, 2021, 41, 3094-3104.	3.6	10
92	Progressive optic atrophy in a retinal ganglion cell-specific mouse model of complex I deficiency. Scientific Reports, 2020, 10, 16326.	3.3	8
93	Absence of S100A4 in the mouse lens induces an aberrant retina-specific differentiation program and cataract. Scientific Reports, 2021, 11, 2203.	3.3	8
94	The F220C and F45L rhodopsin mutations identified in retinitis pigmentosa patients do not cause pathology in mice. Scientific Reports, 2020, 10, 7538.	3.3	7
95	Unusual mode of dimerization of retinitis pigmentosa-associated F220C rhodopsin. Scientific Reports, 2021, 11, 10536.	3.3	7
96	Transducin Î²-Subunit Can Interact with Multiple G-Protein Î³-Subunits to Enable Light Detection by Rod Photoreceptors. ENeuro, 2018, 5, ENEURO.0144-18.2018.	1.9	7
97	Probing Proteostatic Stress in Degenerating Photoreceptors Using Two Complementary<i>In Vivo</i>Reporters of Proteasomal Activity. ENeuro, 2020, 7, ENEURO.0428-19.2019.	1.9	7
98	Apical CLCâ€2 in retinal pigment epithelium is crucial for survival of the outer retina. FASEB Journal, 2021, 35, e21689.	0.5	6
99	Absence of Synaptic Regulation by Phosducin in Retinal Slices. PLoS ONE, 2013, 8, e83970.	2.5	4
100	PRCD Is a Small Disc-Specific Rhodopsin-Binding Protein of Unknown Function. Advances in Experimental Medicine and Biology, 2019, 1185, 531-535.	1.6	3