Vladimir J Kefalov

List of Publications by Year
in descending order

91 papers	3,337 citations	159585 30 h-index	168389 53 g-index
95 all docs	95 docs citations	95 times ranked	3279 citing authors

#	Article	IF	Citations
1	The Cone-specific visual cycle. Progress in Retinal and Eye Research, 2011, 30, 115-128.	15.5	261
2	Cyp27c1 Red-Shifts the Spectral Sensitivity of Photoreceptors by Converting Vitamin A1 into A2. Current Biology, 2015, 25, 3048-3057.	3.9	135
3	An Alternative Pathway Mediates the Mouse and Human Cone Visual Cycle. Current Biology, 2009, 19, 1665-1669.	3.9	122
4	Role of visual pigment properties in rod and cone phototransduction. Nature, 2003, 425, 526-531.	27.8	121
5	Intra-retinal visual cycle required for rapid and complete cone dark adaptation. Nature Neuroscience, 2009, 12, 295-302.	14.8	118
6	P23H opsin knock-in mice reveal a novel step in retinal rod disc morphogenesis. Human Molecular Genetics, 2014, 23, 1723-1741.	2.9	99
7	Breaking the Covalent Bondâ€" A Pigment Property that Contributes to Desensitization in Cones. Neuron, 2005, 46, 879-890.	8.1	96
8	CRALBP supports the mammalian retinal visual cycle and cone vision. Journal of Clinical Investigation, 2015, 125, 727-738.	8.2	96
9	Age-Related Deterioration of Rod Vision in Mice. Journal of Neuroscience, 2010, 30, 11222-11231.	3.6	90
10	Human infrared vision is triggered by two-photon chromophore isomerization. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E5445-54.	7.1	80
11	Reprogramming of adult rod photoreceptors prevents retinal degeneration. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 1732-1737.	7.1	79
12	Rod and Cone Visual Pigments and Phototransduction through Pharmacological, Genetic, and Physiological Approaches. Journal of Biological Chemistry, 2012, 287, 1635-1641.	3.4	76
13	Signaling Properties of a Short-Wave Cone Visual Pigment and Its Role in Phototransduction. Journal of Neuroscience, 2007, 27, 10084-10093.	3.6	74
14	Role of Guanylyl Cyclase Modulation in Mouse Cone Phototransduction. Journal of Neuroscience, 2011, 31, 7991-8000.	3.6	72
15	Essential and Synergistic Roles of RP1 and RP1L1 in Rod Photoreceptor Axoneme and Retinitis Pigmentosa. Journal of Neuroscience, 2009, 29, 9748-9760.	3.6	71
16	Protein misfolding and the pathogenesis of ABCA4-associated retinal degenerations. Human Molecular Genetics, 2015, 24, 3220-3237.	2.9	69
17	Quantal noise from human red cone pigment. Nature Neuroscience, 2008, 11, 565-571.	14.8	67
18	Molecular Properties of Rhodopsin and Rod Function. Journal of Biological Chemistry, 2007, 282, 6677-6684.	3.4	62

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19	Ex vivo ERG analysis of photoreceptors using an in vivo ERG system. Vision Research, 2014, 101, 108-117.	1.4	61
20	Role of Noncovalent Binding of 11-cis-Retinal to Opsin in Dark Adaptation of Rod and Cone Photoreceptors. Neuron, 2001, 29, 749-755.	8.1	59
21	The Mammalian Cone Visual Cycle Promotes Rapid M/L-Cone Pigment Regeneration Independently of the Interphotoreceptor Retinoid-Binding Protein. Journal of Neuroscience, 2011, 31, 7900-7909.	3.6	56
22	G-Protein Î²Î³-Complex Is Crucial for Efficient Signal Amplification in Vision. Journal of Neuroscience, 2011, 31, 8067-8077.	3.6	54
23	DICER1 is essential for survival of postmitotic rod photoreceptor cells in mice. FASEB Journal, 2014, 28, 3780-3791.	0.5	54
24	Regulation of calcium homeostasis in the outer segments of rod and cone photoreceptors. Progress in Retinal and Eye Research, 2018, 67, 87-101.	15.5	51
25	Interphotoreceptor Retinoid-Binding Protein as the Physiologically Relevant Carrier of 11-<i>cis-</i>Retinol in the Cone Visual Cycle. Journal of Neuroscience, 2011, 31, 4714-4719.	3.6	44
26	Occupancy of the Chromophore Binding Site of Opsin Activates Visual Transduction in Rod Photoreceptors. Journal of General Physiology, 1999, 113, 491-503.	1.9	43
27	Storeâ€operated channels regulate intracellular calcium in mammalian rods. Journal of Physiology, 2012, 590, 3465-3481.	2.9	41
28	Thyroid hormone receptors mediate two distinct mechanisms of long-wavelength vision. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 15262-15269.	7.1	41
29	A new mouse model for stationary night blindness with mutant Slc24a1 explains the pathophysiology of the associated human disease. Human Molecular Genetics, 2015, 24, 5915-5929.	2.9	40
30	Functional interchangeability of rod and cone transducin Î±-subunits. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 17681-17686.	7.1	39
31	Graded gene expression changes determine phenotype severity in mouse models of CRX-associated retinopathies. Genome Biology, 2015, 16, 171.	8.8	37
32	Lamin B1 and lamin B2 are long-lived proteins with distinct functions in retinal development. Molecular Biology of the Cell, 2016, 27, 1928-1937.	2.1	33
33	Autophagy supports color vision. Autophagy, 2015, 11, 1821-1832.	9.1	32
34	Regulation of Mammalian Cone Phototransduction by Recoverin and Rhodopsin Kinase. Journal of Biological Chemistry, 2015, 290, 9239-9250.	3.4	29
35	The Na+/Ca2+, K+ exchanger NCKX4 is required for efficient cone-mediated vision. ELife, 2017, 6, .	6.0	29
36	Rhodopsin kinase and arrestin binding control the decay of photoactivated rhodopsin and dark adaptation of mouse rods. Journal of General Physiology, 2016, 148, 1-11.	1.9	28

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37	Retinoid isomerase inhibitors impair but do not block mammalian cone photoreceptor function. Journal of General Physiology, 2018, 150, 571-590.	1.9	28
38	<i>cis</i> Retinol oxidation regulates photoreceptor access to the retina visual cycle and cone pigment regeneration. Journal of Physiology, 2016, 594, 6753-6765.	2.9	27
39	Autosomal recessive retinitis pigmentosa E150K opsin mice exhibit photoreceptor disorganization. Journal of Clinical Investigation, 2013, 123, 121-137.	8.2	26
40	Chromophore Supply Rate-Limits Mammalian Photoreceptor Dark Adaptation. Journal of Neuroscience, 2014, 34, 11212-11221.	3.6	25
41	Simultaneous ex vivo Functional Testing of Two Retinas by in vivo Electroretinogram System. Journal of Visualized Experiments, 2015, , e52855.	0.3	25
42	Systemic Retinaldehyde Treatment Corrects Retinal Oxidative Stress, Rod Dysfunction, and Impaired Visual Performance in Diabetic Mice. , 2015, 56, 6294.		24
43	Multiple Isoforms of Nesprin1 Are Integral Components of Ciliary Rootlets. Current Biology, 2017, 27, 2014-2022.e6.	3.9	24
44	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.	3.6	24
45	Effect of 11-Cis 13-Demethylretinal on Phototransduction in Bleach-Adapted Rod and Cone Photoreceptors. Journal of General Physiology, 2000, 116, 283-298.	1.9	23
46	Deletion of GRK1 Causes Retina Degeneration through a Transducin-Independent Mechanism. Journal of Neuroscience, 2010, 30, 2496-2503.	3.6	22
47	Cone Phosphodiesterase-6Â' Restores Rod Function and Confers Distinct Physiological Properties in the Rod Phosphodiesterase-6Â-Deficient rd10 Mouse. Journal of Neuroscience, 2013, 33, 11745-11753.	3.6	22
48	Conditional deletion of<i>Des1</i>in the mouse retina does not impair the visual cycle in cones. FASEB Journal, 2019, 33, 5782-5792.	0.5	22
49	Redox-Responsive Hyaluronic Acid-Based Nanogels for the Topical Delivery of the Visual Chromophore to Retinal Photoreceptors. ACS Omega, 2021, 6, 6172-6184.	3.5	22
50	Transretinal ERG Recordings from Mouse Retina: Rod and Cone Photoresponses. Journal of Visualized Experiments, 2012, , .	0.3	21
51	Circadian and light-driven regulation of rod dark adaptation. Scientific Reports, 2015, 5, 17616.	3.3	21
52	Mitochondrial Calcium Uniporter (MCU) deficiency reveals an alternate path for Ca2+ uptake in photoreceptor mitochondria. Scientific Reports, 2020, 10, 16041.	3.3	21
53	Two-photon microperimetry: sensitivity of human photoreceptors to infrared light. Biomedical Optics Express, 2019, 10, 4551.	2.9	21
54	The Na+/Ca2+, K+ exchanger 2 modulates mammalian cone phototransduction. Scientific Reports, 2016, 6, 32521.	3.3	20

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55	Effect of G Proteinâ€"Coupled Receptor Kinase 1 (Grk1) Overexpression on Rod Photoreceptor Cell Viability. , 2010, 51, 1728.		19
56	Phosducin-Like Protein 1 is Essential for G-Protein Assembly and Signaling in Retinal Rod Photoreceptors. Journal of Neuroscience, 2013, 33, 7941-7951.	3.6	18
57	LRIT1 Modulates Adaptive Changes in Synaptic Communication of Cone Photoreceptors. Cell Reports, 2018, 22, 3562-3573.	6.4	18
58	Variation in Rhodopsin Kinase Expression Alters the Dim Flash Response Shut Off and the Light Adaptation in Rod Photoreceptors. , 2011, 52, 6793.		17
59	The retina visual cycle is driven by <i>cis</i> retinol oxidation in the outer segments of cones. Visual Neuroscience, 2017, 34, E004.	1.0	17
60	R9AP Overexpression Alters Phototransduction Kinetics in iCre75 Mice. , 2014, 55, 1339.		16
61	Guanylate cyclaseâ€"activating protein 2 contributes to phototransduction and light adaptation in mouse cone photoreceptors. Journal of Biological Chemistry, 2018, 293, 7457-7465.	3.4	16
62	The role of retinol dehydrogenase 10 in the cone visual cycle. Scientific Reports, 2017, 7, 2390.	3.3	15
63	Sensitivity and kinetics of signal transmission at the first visual synapse differentially impact visually-guided behavior. ELife, 2015, 4, e06358.	6.0	15
64	Use of retinal analogues for the study of visual pigment function. Methods in Enzymology, 2002, 343, 29-48.	1.0	13
65	Apo-Opsin Exists in Equilibrium Between a Predominant Inactive and a Rare Highly Active State. Journal of Neuroscience, 2019, 39, 212-223.	3.6	13
66	Retinol dehydrogenase 8 and ATPâ€binding cassette transporter 4 modulate dark adaptation of Mâ€cones in mammalian retina. Journal of Physiology, 2015, 593, 4923-4941.	2.9	12
67	Examining the Role of Cone-expressed RPE65 in Mouse Cone Function. Scientific Reports, 2018, 8, 14201.	3.3	12
68	Dephosphorylation by protein phosphatase 2A regulates visual pigment regeneration and the dark adaptation of mammalian photoreceptors. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E9675-E9684.	7.1	11
69	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
70	A Mixture of U.S. Food and Drug Administrationâ€"Approved Monoaminergic Drugs Protects the Retina From Light Damage in Diverse Models of Night Blindness. , 2019, 60, 1442.		11
71	Sensory Transduction in Photoreceptors and Olfactory Sensory Neurons: Common Features and Distinct Characteristics. Frontiers in Cellular Neuroscience, 2021, 15, 761416.	3.7	11
72	Phosphorylation at Serine 21 in G proteinâ€coupled receptor kinase 1 (GRK1) is required for normal kinetics of dark adaption in rod but not cone photoreceptors. FASEB Journal, 2020, 34, 2677-2690.	0.5	10

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73	Light deprivation reduces the severity of experimental diabetic retinopathy. Neurobiology of Disease, 2020, 137, 104754.	4.4	10
74	Retinal Cone Photoreceptors Require Phosducin-Like Protein 1 for G Protein Complex Assembly and Signaling. PLoS ONE, 2015, 10, e0117129.	2.5	10
75	Membrane Anchoring Subunits Specify Selective Regulation of RGS9Â·GÎ²5 GAP Complex in Photoreceptor Neurons. Journal of Neuroscience, 2010, 30, 13784-13793.	3.6	9
76	Sensitivity of Mammalian Cone Photoreceptors to Infrared Light. Neuroscience, 2019, 416, 100-108.	2.3	9
77	Function of mammalian M-cones depends on the level of CRALBP in MÃ¼ller cells. Journal of General Physiology, 2021, 153, .	1.9	9
78	Differential impact of Kv8.2 loss on rod and cone signaling and degeneration. Human Molecular Genetics, 2022, 31, 1035-1050.	2.9	9
79	Investigating the Ca2+-dependent and Ca2+-independent mechanisms for mammalian cone light adaptation. Scientific Reports, 2018, 8, 15864.	3.3	8
80	Development of an MRI biomarker sensitive to tetrameric visual arrestin 1 and its reduction <i>via</i> lightâ€evoked translocation <i>in vivo</i>. FASEB Journal, 2015, 29, 554-564.	0.5	7
81	Physiological Studies of the Interaction Between Opsin and Chromophore in Rod and Cone Visual Pigments. Methods in Molecular Biology, 2010, 652, 95-114.	0.9	7
82	Single-cell Suction Recordings from Mouse Cone Photoreceptors. Journal of Visualized Experiments, 2010, , .	0.3	6
83	Mislocalization of cone nuclei impairs cone function in mice. FASEB Journal, 2020, 34, 10242-10249.	0.5	5
84	Signaling States of Rhodopsin in Rod Disk Membranes Lacking Transducin Î²Î³-Complex. , 2012, 53, 1225.		2
85	The B3 Subunit of the Cone Cyclic Nucleotide-gated Channel Regulates the Light Responses of Cones and Contributes to the Channel Structural Flexibility. Journal of Biological Chemistry, 2016, 291, 8721-8734.	3.4	2
86	An Allosteric Regulator of R7-RGS Proteins Influences Light-Evoked Activity and Glutamatergic Waves in the Inner Retina. PLoS ONE, 2013, 8, e82276.	2.5	2
87	EML1 is essential for retinal photoreceptor migration and survival. Scientific Reports, 2022, 12, 2897.	3.3	2
88	Cone-Driven Retinal Responses Are Shaped by Rod But Not Cone HCN1. Journal of Neuroscience, 2022, 42, 4231-4249.	3.6	2
89	Signaling by Rod and Cone Photoreceptors: Opsin Properties, G-protein Assembly, and Mechanisms of Activation. , 2014, , 23-48.		1
90	Kinetic Analysis of the Intermediate States of Rhodopsin and Photoresponse of Rod cells Revealed by Rhodopsin Knock-in Mouse. Seibutsu Butsuri, 2003, 43, S186.	0.1	0

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91	Acylâ€CoA:wax alcohol acyltransferase 2 modulates the cone visual cycle in mouse retina. FASEB Journal, 2022, 36, .	0.5	0