Gordon L Fain

List of Publications by Year
in descending order

71 papers	4,031 citations	126858 33 h-index	123376 61 g-index
265 all docs	265 docs citations	265 times ranked	2663 citing authors

#	Article	IF	Citations
1	Adaptation in Vertebrate Photoreceptors. Physiological Reviews, 2001, 81, 117-151.	13.1	519
2	ATP Consumption by Mammalian Rod Photoreceptors in Darkness and in Light. Current Biology, 2008, 18, 1917-1921.	1.8	320
3	Phototransduction and the Evolution of Photoreceptors. Current Biology, 2010, 20, R114-R124.	1.8	246
4	Photoreceptor Degeneration in Vitamin A Deprivation and Retinitis Pigmentosa: the Equivalent Light Hypothesis. Experimental Eye Research, 1993, 57, 335-340.	1.2	192
5	Measurement of cytoplasmic calcium concentration in the rods of wildâ€type and transducin knockâ€out mice. Journal of Physiology, 2002, 542, 843-854.	1.3	179
6	Spontaneous activity of opsin apoprotein is a cause of Leber congenital amaurosis. Nature Genetics, 2003, 35, 158-164.	9.4	163
7	AIPL1, the protein that is defective in Leber congenital amaurosis, is essential for the biosynthesis of retinal rod cGMP phosphodiesterase. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 13903-13908.	3.3	113
8	Light Stimulates a Transducin-Independent Increase of Cytoplasmic Ca²⁺and Suppression of Current in Cones from the Zebrafish Mutant<i>nof</i>. Journal of Neuroscience, 2003, 23, 470-480.	1.7	101
9	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
10	Why photoreceptors die (and why they don't). BioEssays, 2006, 28, 344-354.	1.2	89
11	Why are rods more sensitive than cones?. Journal of Physiology, 2016, 594, 5415-5426.	1.3	88
12	Light-dependent calcium release from photoreceptors measured by laser micro-mass analysis. Nature, 1984, 309, 268-270.	13.7	85
13	Knockout of GARPs and the Î²-subunit of the rod cGMP-gated channel disrupts disk morphogenesis and rod outer segment structural integrity. Journal of Cell Science, 2009, 122, 1192-1200.	1.2	84
14	Calcium-dependent regenerative responses in rods. Nature, 1977, 269, 707-710.	13.7	83
15	Opsin activation of transduction in the rods of dark-rearedRpe65knockout mice. Journal of Physiology, 2005, 568, 83-95.	1.3	83
16	Light-Driven Regeneration of Cone Visual Pigments through a Mechanism Involving RGR Opsin in MÃ¼ller Glial Cells. Neuron, 2019, 102, 1172-1183.e5.	3.8	79
17	Support for the equivalent light hypothesis for RP. Nature Medicine, 1995, 1, 1254-1255.	15.2	69
18	Channel Modulation and the Mechanism of Light Adaptation in Mouse Rods. Journal of Neuroscience, 2010, 30, 16232-16240.	1.7	69

#	Article	IF	Citations
19	Background Light Produces a Recoverin-Dependent Modulation of Activated-Rhodopsin Lifetime in Mouse Rods. Journal of Neuroscience, 2010, 30, 1213-1220.	1.7	66
20	Single-Photon Sensitivity of Lamprey Rods with Cone-like Outer Segments. Current Biology, 2015, 25, 484-487.	1.8	61
21	Modulation of Mouse Rod Response Decay by Rhodopsin Kinase and Recoverin. Journal of Neuroscience, 2012, 32, 15998-16006.	1.7	60
22	Modulation of Phosphodiesterase6 Turnoff during Background Illumination in Mouse Rod Photoreceptors. Journal of Neuroscience, 2008, 28, 2064-2074.	1.7	59
23	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
24	Elevated energy requirement of cone photoreceptors. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19599-19603.	3.3	58
25	Functional Rescue of Degenerating Photoreceptors in Mice Homozygous for a Hypomorphic cGMP Phosphodiesterase 6 b Allele (<i>Pde6b</i>^{<i>H620Q</i>}). , 2008, 49, 5067.		57
26	Blue light regenerates functional visual pigments in mammals through a retinyl-phospholipid intermediate. Nature Communications, 2017, 8, 16.	5.8	54
27	The PDE6 mutation in the rd10 retinal degeneration mouse model causes protein mislocalization and instability and promotes cell death through increased ion influx. Journal of Biological Chemistry, 2018, 293, 15332-15346.	1.6	53
28	GAP-Independent Termination of Photoreceptor Light Response by Excess Â Subunit of the cGMP-Phosphodiesterase. Journal of Neuroscience, 2006, 26, 4472-4480.	1.7	52
29	The effects of low calcium and background light on the sensitivity of toad rods. Journal of Physiology, 1982, 330, 307-329.	1.3	44
30	Rod and cone interactions in the retina. F1000Research, 2018, 7, 657.	0.8	44
31	Night Blindness and the Mechanism of Constitutive Signaling of Mutant G90D Rhodopsin. Journal of Neuroscience, 2008, 28, 11662-11672.	1.7	40
32	Constitutive opsin signaling: night blindness or retinal degeneration?. Trends in Molecular Medicine, 2004, 10, 150-157.	3.5	39
33	A lightâ€dependent increase in free Ca 2+ concentration in the salamander rod outer segment. Journal of Physiology, 2001, 532, 305-321.	1.3	35
34	Early receptor current of wild-type and transducin knockout mice: photosensitivity and light-induced Ca2+release. Journal of Physiology, 2004, 557, 821-828.	1.3	35
35	Detection of single photons by toad and mouse rods. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 19378-19383.	3.3	33
36	The effects of sodium replacement on the responses of toad rods. Journal of Physiology, 1982, 330, 331-347.	1.3	32

#	Article	IF	Citations
37	Voltage-clamp recordings of light responses from wild-type and mutant mouse cone photoreceptors. Journal of General Physiology, 2019, 151, 1287-1299.	0.9	31
38	The evolution of rod photoreceptors. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160074.	1.8	30
39	The effect of light on outer segment calcium in salamander rods. Journal of Physiology, 2003, 552, 763-776.	1.3	27
40	Adaptation of Mammalian Photoreceptors to Background Light: Putative Role for Direct Modulation of Phosphodiesterase. Molecular Neurobiology, 2011, 44, 374-382.	1.9	26
41	Rhodopsin kinase and recoverin modulate phosphodiesterase during mouse photoreceptor light adaptation. Journal of General Physiology, 2015, 145, 213-224.	0.9	26
42	How rods respond to single photons: Key adaptations of a Gâ€protein cascade that enable vision at the physical limit of perception. BioEssays, 2015, 37, 1243-1252.	1.2	25
43	Cambrian origin of the CYP27C1-mediated vitamin A ₁ -to-A ₂ switch, a key mechanism of vertebrate sensory plasticity. Royal Society Open Science, 2017, 4, 170362.	1.1	25
44	Simultaneous measurement of current and calcium in the ultraviolet-sensitive cones of zebrafish. Journal of Physiology, 2007, 579, 15-27.	1.3	22
45	Membrane conductances of mouse cone photoreceptors. Journal of General Physiology, 2020, 152, .	0.9	22
46	Light adaptation and the evolution of vertebrate photoreceptors. Journal of Physiology, 2017, 595, 4947-4960.	1.3	20
47	Light-induced Ca2+ release in the visible cones of the zebrafish. Visual Neuroscience, 2004, 21, 599-609.	0.5	18
48	Role of recoverin in rod photoreceptor light adaptation. Journal of Physiology, 2018, 596, 1513-1526.	1.3	17
49	Rod Photoreceptors Avoid Saturation in Bright Light by the Movement of the G Protein Transducin. Journal of Neuroscience, 2021, 41, 3320-3330.	1.7	16
50	Time course and magnitude of the calcium release induced by bright light in salamander rods. Journal of Physiology, 2002, 542, 829-841.	1.3	15
51	Lamprey vision: Photoreceptors and organization of the retina. Seminars in Cell and Developmental Biology, 2020, 106, 5-11.	2.3	14
52	Chapter 27 Dark adaptation. Progress in Brain Research, 2001, 131, 383-394.	0.9	13
53	Whole-cell currents activated at nicotinic acetylcholine receptors on ganglion cells isolated from goldfish retina. Visual Neuroscience, 1993, 10, 353-361.	0.5	12
54	Modulation of Mouse Rod Photoreceptor Responses by Grb14 Protein. Journal of Biological Chemistry, 2014, 289, 358-364.	1.6	12

#	Article	IF	Citations
55	A kinetic analysis of mouse rod and cone photoreceptor responses. Journal of Physiology, 2020, 598, 3747-3763.	1.3	12
56	A LESBIAN ENDING IN THE ODES OF HORACE. Classical Quarterly, 2007, 57, 318-321.	0.1	11
57	Effect of the ILE86TER mutation in the Î³ subunit of cGMP phosphodiesterase (PDE6) on rod photoreceptor signaling. Cellular Signalling, 2012, 24, 181-188.	1.7	9
58	Light responses of mammalian cones. Pflugers Archiv European Journal of Physiology, 2021, 473, 1555-1568.	1.3	9
59	Reproducibility of the Rod Photoreceptor Response Depends Critically on the Concentration of the Phosphodiesterase Effector Enzyme. Journal of Neuroscience, 2022, 42, 2180-2189.	1.7	9
60	[10] Laser spot confical technique to measure cytoplasmic calcium concentration in photoreceptors. Methods in Enzymology, 2000, 316, 146-163.	0.4	8
61	Separate ON and OFF pathways in vertebrate vision first arose during the Cambrian. Current Biology, 2020, 30, R633-R634.	1.8	8
62	Pupillary light reflex of lamprey Petromyzon marinus. Current Biology, 2021, 31, R65-R66.	1.8	6
63	Effect of Knocking Down the Insulin Receptor on Mouse Rod Responses. Scientific Reports, 2015, 5, 7858.	1.6	5
64	Analysis of waveform and amplitude of mouse rod and cone flash responses. Journal of Physiology, 2021, 599, 3295-3312.	1.3	5
65	Phototransduction: Making the Chromophore to See Through the Murk. Current Biology, 2015, 25, R1126-R1127.	1.8	4
66	Molecular Mechanism of Adaptation in Vertebrate Rods. , 2014, , 73-90.		4
67	Diminished Cone Sensitivity in <i>cpfl3</i> Mice Is Caused by Defective Transducin Signaling. , 2020, 61, 26.		3
68	A hyperpolarizing rod bipolar cell in the sea lamprey, <i>Petromyzon marinus</i>. Journal of Experimental Biology, 2022, 225, .	0.8	2
69	Eye-wash. Nature, 1991, 354, 101-101.	13.7	0
70	APOSTROPHE AND Î£Î¦PHÎ"ÎÎ£ IN THE THEOGNIDEAN SYLLOGE. Classical Quarterly, 2006, 56, 301-304.	0.1	0
71	Vision: Life on the dark side. Current Biology, 2022, 32, R741-R743.	1.8	0