

# Gordon L Fain

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

70  
papers

3,232  
citations

31  
h-index

56  
g-index

265  
ext. papers

3,701  
ext. citations

8.8  
avg, IF

5.39  
L-index

#	Paper	IF	Citations
70	Adaptation in vertebrate photoreceptors. <i>Physiological Reviews</i> , <b>2001</b> , 81, 117-151	47.9	458
69	ATP consumption by mammalian rod photoreceptors in darkness and in light. <i>Current Biology</i> , <b>2008</b> , 18, 1917-21	6.3	226
68	Photoreceptor degeneration in vitamin A deprivation and retinitis pigmentosa: the equivalent light hypothesis. <i>Experimental Eye Research</i> , <b>1993</b> , 57, 335-40	3.7	187
67	Phototransduction and the evolution of photoreceptors. <i>Current Biology</i> , <b>2010</b> , 20, R114-24	6.3	174
66	Measurement of cytoplasmic calcium concentration in the rods of wild-type and transducin knock-out mice. <i>Journal of Physiology</i> , <b>2002</b> , 542, 843-54	3.9	162
65	Spontaneous activity of opsin apoprotein is a cause of Leber congenital amaurosis. <i>Nature Genetics</i> , <b>2003</b> , 35, 158-64	36.3	148
64	AiPL1, the protein that is defective in Leber congenital amaurosis, is essential for the biosynthesis of retinal rod cGMP phosphodiesterase. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2004</b> , 101, 13903-8	11.5	94
63	The Y99C mutation in guanylyl cyclase-activating protein 1 increases intracellular Ca <sup>2+</sup> and causes photoreceptor degeneration in transgenic mice. <i>Journal of Neuroscience</i> , <b>2004</b> , 24, 6078-85	6.6	90
62	Light stimulates a transducin-independent increase of cytoplasmic Ca <sup>2+</sup> and suppression of current in cones from the zebrafish mutant nof. <i>Journal of Neuroscience</i> , <b>2003</b> , 23, 470-80	6.6	83
61	Light-dependent calcium release from photoreceptors measured by laser micro-mass analysis. <i>Nature</i> , <b>1984</b> , 309, 268-70	50.4	81
60	Why photoreceptors die (and why they don't). <i>BioEssays</i> , <b>2006</b> , 28, 344-54	4.1	79
59	Calcium-dependent regenerative responses in rods. <i>Nature</i> , <b>1977</b> , 269, 707-10	50.4	77
58	Knockout of GARPs and the $\beta$ subunit of the rod cGMP-gated channel disrupts disk morphogenesis and rod outer segment structural integrity. <i>Journal of Cell Science</i> , <b>2009</b> , 122, 1192-200	5.3	71
57	Opsin activation of transduction in the rods of dark-reared Rpe65 knockout mice. <i>Journal of Physiology</i> , <b>2005</b> , 568, 83-95	3.9	71
56	Support for the equivalent light hypothesis for RP. <i>Nature Medicine</i> , <b>1995</b> , 1, 1254-5	50.5	65
55	Background light produces a recoverin-dependent modulation of activated-rhodopsin lifetime in mouse rods. <i>Journal of Neuroscience</i> , <b>2010</b> , 30, 1213-20	6.6	57
54	Constitutive excitation by Gly90Asp rhodopsin rescues rods from degeneration caused by elevated production of cGMP in the dark. <i>Journal of Neuroscience</i> , <b>2007</b> , 27, 8805-15	6.6	55

53	Why are rods more sensitive than cones?. <i>Journal of Physiology</i> , <b>2016</b> , 594, 5415-26	3.9	55
52	Modulation of phosphodiesterase6 turnoff during background illumination in mouse rod photoreceptors. <i>Journal of Neuroscience</i> , <b>2008</b> , 28, 2064-74	6.6	54
51	Channel modulation and the mechanism of light adaptation in mouse rods. <i>Journal of Neuroscience</i> , <b>2010</b> , 30, 16232-40	6.6	52
50	Functional rescue of degenerating photoreceptors in mice homozygous for a hypomorphic cGMP phosphodiesterase 6 b allele (Pde6bH620Q) <b>2008</b> , 49, 5067-76		50
49	Light-Driven Regeneration of Cone Visual Pigments through a Mechanism Involving RGR Opsin in Müller Glial Cells. <i>Neuron</i> , <b>2019</b> , 102, 1172-1183.e5	13.9	49
48	Single-photon sensitivity of lamprey rods with cone-like outer segments. <i>Current Biology</i> , <b>2015</b> , 25, 484-7.3		49
47	GAP-independent termination of photoreceptor light response by excess gamma subunit of the cGMP-phosphodiesterase. <i>Journal of Neuroscience</i> , <b>2006</b> , 26, 4472-80	6.6	48
46	Modulation of mouse rod response decay by rhodopsin kinase and recoverin. <i>Journal of Neuroscience</i> , <b>2012</b> , 32, 15998-6006	6.6	44
45	The effects of low calcium and background light on the sensitivity of toad rods. <i>Journal of Physiology</i> , <b>1982</b> , 330, 307-29	3.9	41
44	Constitutive opsin signaling: night blindness or retinal degeneration?. <i>Trends in Molecular Medicine</i> , <b>2004</b> , 10, 150-7	11.5	39
43	Night blindness and the mechanism of constitutive signaling of mutant G90D rhodopsin. <i>Journal of Neuroscience</i> , <b>2008</b> , 28, 11662-72	6.6	37
42	Blue light regenerates functional visual pigments in mammals through a retinyl-phospholipid intermediate. <i>Nature Communications</i> , <b>2017</b> , 8, 16	17.4	35
41	Early receptor current of wild-type and transducin knockout mice: photosensitivity and light-induced Ca <sup>2+</sup> release. <i>Journal of Physiology</i> , <b>2004</b> , 557, 821-8	3.9	32
40	The effects of sodium replacement on the responses of toad rods. <i>Journal of Physiology</i> , <b>1982</b> , 330, 331-47		32
39	A light-dependent increase in free Ca <sup>2+</sup> concentration in the salamander rod outer segment. <i>Journal of Physiology</i> , <b>2001</b> , 532, 305-21	3.9	31
38	The PDE6 mutation in the rd10 retinal degeneration mouse model causes protein mislocalization and instability and promotes cell death through increased ion influx. <i>Journal of Biological Chemistry</i> , <b>2018</b> , 293, 15332-15346	5.4	29
37	The effect of light on outer segment calcium in salamander rods. <i>Journal of Physiology</i> , <b>2003</b> , 552, 763-76.9		24
36	Detection of single photons by toad and mouse rods. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 19378-83	11.5	23

35	Adaptation of mammalian photoreceptors to background light: putative role for direct modulation of phosphodiesterase. <i>Molecular Neurobiology</i> , <b>2011</b> , 44, 374-82	6.2	22
34	Rod and cone interactions in the retina. <i>F1000Research</i> , <b>2018</b> , 7,	3.6	22
33	Elevated energy requirement of cone photoreceptors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2020</b> , 117, 19599-19603	11.5	22
32	Rhodopsin kinase and recoverin modulate phosphodiesterase during mouse photoreceptor light adaptation. <i>Journal of General Physiology</i> , <b>2015</b> , 145, 213-24	3.4	19
31	Simultaneous measurement of current and calcium in the ultraviolet-sensitive cones of zebrafish. <i>Journal of Physiology</i> , <b>2007</b> , 579, 15-27	3.9	18
30	The evolution of rod photoreceptors. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2017</b> , 372,	5.8	17
29	Light-induced Ca <sup>2+</sup> release in the visible cones of the zebrafish. <i>Visual Neuroscience</i> , <b>2004</b> , 21, 599-609	1.7	17
28	Voltage-clamp recordings of light responses from wild-type and mutant mouse cone photoreceptors. <i>Journal of General Physiology</i> , <b>2019</b> , 151, 1287-1299	3.4	16
27	How rods respond to single photons: Key adaptations of a G-protein cascade that enable vision at the physical limit of perception. <i>BioEssays</i> , <b>2015</b> , 37, 1243-52	4.1	15
26	Time course and magnitude of the calcium release induced by bright light in salamander rods. <i>Journal of Physiology</i> , <b>2002</b> , 542, 829-41	3.9	15
25	Light adaptation and the evolution of vertebrate photoreceptors. <i>Journal of Physiology</i> , <b>2017</b> , 595, 4947-4960	3.9	14
24	Role of recoverin in rod photoreceptor light adaptation. <i>Journal of Physiology</i> , <b>2018</b> , 596, 1513-1526	3.9	14
23	Cambrian origin of the CYP27C1-mediated vitamin A-to-A switch, a key mechanism of vertebrate sensory plasticity. <i>Royal Society Open Science</i> , <b>2017</b> , 4, 170362	3.3	13
22	Whole-cell currents activated at nicotinic acetylcholine receptors on ganglion cells isolated from goldfish retina. <i>Visual Neuroscience</i> , <b>1993</b> , 10, 353-61	1.7	12
21	Membrane conductances of mouse cone photoreceptors. <i>Journal of General Physiology</i> , <b>2020</b> , 152,	3.4	10
20	Dark adaptation. <i>Progress in Brain Research</i> , <b>2001</b> , 131, 383-94	2.9	9
19	Effect of the ILE86TER mutation in the $\beta$ subunit of cGMP phosphodiesterase (PDE6) on rod photoreceptor signaling. <i>Cellular Signalling</i> , <b>2012</b> , 24, 181-8	4.9	8
18	Laser spot confocal technique to measure cytoplasmic calcium concentration in photoreceptors. <i>Methods in Enzymology</i> , <b>2000</b> , 316, 146-63	1.7	8

17	Lamprey vision: Photoreceptors and organization of the retina. <i>Seminars in Cell and Developmental Biology</i> , <b>2020</b> , 106, 5-11	7.5	8
16	Modulation of mouse rod photoreceptor responses by Grb14 protein. <i>Journal of Biological Chemistry</i> , <b>2014</b> , 289, 358-64	5.4	7
15	Molecular and Cellular Physiology of Neurons <b>2014</b> ,		7
14	Sensory Transduction <b>2019</b> ,		6
13	Effect of knocking down the insulin receptor on mouse rod responses. <i>Scientific Reports</i> , <b>2015</b> , 5, 7858	4.9	5
12	A kinetic analysis of mouse rod and cone photoreceptor responses. <i>Journal of Physiology</i> , <b>2020</b> , 598, 3747-3763	3.9	5
11	Rod Photoreceptors Avoid Saturation in Bright Light by the Movement of the G Protein Transducin. <i>Journal of Neuroscience</i> , <b>2021</b> , 41, 3320-3330	6.6	5
10	Molecular Mechanism of Adaptation in Vertebrate Rods <b>2014</b> , 73-90		4
9	Separate ON and OFF pathways in vertebrate vision first arose during the Cambrian. <i>Current Biology</i> , <b>2020</b> , 30, R633-R634	6.3	2
8	Phototransduction: Making the Chromophore to See Through the Murk. <i>Current Biology</i> , <b>2015</b> , 25, R1126-7	6.7	2
7	Light responses of mammalian cones. <i>Pflügers Archiv European Journal of Physiology</i> , <b>2021</b> , 473, 1555-1568	6.8	2
6	Pupillary light reflex of lamprey <i>Petromyzon marinus</i> . <i>Current Biology</i> , <b>2021</b> , 31, R65-R66	6.3	2
5	A LESBIAN ENDING IN THE ODES OF HORACE. <i>Classical Quarterly</i> , <b>2007</b> , 57, 318-321	0.1	1
4	Analysis of waveform and amplitude of mouse rod and cone flash responses. <i>Journal of Physiology</i> , <b>2021</b> , 599, 3295-3312	3.9	1
3	Diminished Cone Sensitivity in cpfl3 Mice Is Caused by Defective Transducin Signaling <b>2020</b> , 61, 26		0
2	APOSTROPHE AND ΠHIIIIN THE THEOGNIDEAN SYLLOGE. <i>Classical Quarterly</i> , <b>2006</b> , 56, 301-304	0.1	
1	Eye-wash. <i>Nature</i> , <b>1991</b> , 354, 101	50.4	