

# Carlos Belmonte

## List of Publications by Year in descending order

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104  
papers

8,589  
citations

47006

47  
h-index

54911

84  
g-index

105  
all docs

105  
docs citations

105  
times ranked

5776  
citing authors

#	ARTICLE	IF	CITATIONS
1	Altered nociception, analgesia and aggression in mice lacking the receptor for substance P. <i>Nature</i> , 1998, 392, 394-397.	27.8	719
2	TFOS DEWS II Report Executive Summary. <i>Ocular Surface</i> , 2017, 15, 802-812.	4.4	502
3	Neural basis of sensation in intact and injured corneas. <i>Experimental Eye Research</i> , 2004, 78, 513-525.	2.6	438
4	TFOS DEWS II pain and sensation report. <i>Ocular Surface</i> , 2017, 15, 404-437.	4.4	437
5	Specificity of cold thermotransduction is determined by differential ionic channel expression. <i>Nature Neuroscience</i> , 2002, 5, 254-260.	14.8	316
6	Ocular surface wetness is regulated by TRPM8-dependent cold thermoreceptors of the cornea. <i>Nature Medicine</i> , 2010, 16, 1396-1399.	30.7	270
7	Decreased Corneal Sensitivity in Patients with Dry Eye. , 2005, 46, 2341.		212
8	Neurotrophic Influences on Corneal Epithelial Cells. <i>Experimental Eye Research</i> , 1994, 59, 597-605.	2.6	195
9	Tetrodotoxin-resistant impulses in single nociceptor nerve terminals in guinea-pig cornea. <i>Journal of Physiology</i> , 1998, 512, 211-217.	2.9	186
10	Nerves and Sensations from the Eye Surface. <i>Ocular Surface</i> , 2004, 2, 248-253.	4.4	181
11	Attenuation of thermal nociception and hyperalgesia by VR1 blockers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 2374-2379.	7.1	178
12	Variable Threshold of Trigeminal Cold-Thermosensitive Neurons Is Determined by a Balance between TRPM8 and Kv1 Potassium Channels. <i>Journal of Neuroscience</i> , 2009, 29, 3120-3131.	3.6	169
13	Neurobiology of ocular pain. <i>Progress in Retinal and Eye Research</i> , 1997, 16, 117-156.	15.5	167
14	The Influence of Eye Solutions on Blinking and Ocular Comfort at Rest and During Work at Video Display Terminals. <i>Experimental Eye Research</i> , 1999, 68, 663-669.	2.6	157
15	Contribution of TRPM8 Channels to Cold Transduction in Primary Sensory Neurons and Peripheral Nerve Terminals. <i>Journal of Neuroscience</i> , 2006, 26, 12512-12525.	3.6	156
16	TRPA1 Channels Mediate Cold Temperature Sensing in Mammalian Vagal Sensory Neurons: Pharmacological and Genetic Evidence. <i>Journal of Neuroscience</i> , 2008, 28, 7863-7875.	3.6	148
17	What Causes Eye Pain?. <i>Current Ophthalmology Reports</i> , 2015, 3, 111-121.	1.2	148
18	Direct inhibition of the cold-activated TRPM8 ion channel by G $\beta$ q. <i>Nature Cell Biology</i> , 2012, 14, 851-858.	10.3	134

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19	Cold Thermoreceptors, Unexpected Players in Tear Production and Ocular Dryness Sensations. , 2011, 52, 3888.		133
20	Sensory experiences in humans and single-unit activity in cats evoked by polymodal stimulation of the cornea. Journal of Physiology, 2001, 534, 511-525.	2.9	130
21	Hypoosmotic and pressure induced membrane stretch activate TRPC5 channels. Journal of Physiology, 2008, 586, 5633-5649.	2.9	123
22	Molecular and Cellular Limits to Somatosensory Specificity. Molecular Pain, 2008, 4, 1744-8069-4-14.	2.1	116
23	TRPM8 is a neuronal osmosensor that regulates eye blinking in mice. Nature Communications, 2015, 6, 7150.	12.8	111
24	CO2 Stimulation of the Cornea: A Comparison Between Human Sensation and Nerve Activity in Polymodal Nociceptive Afferents of the Cat. European Journal of Neuroscience, 1995, 7, 1154-1163.	2.6	109
25	Tear fluid hyperosmolality increases nerve impulse activity of cold thermoreceptor endings of the cornea. Pain, 2014, 155, 1481-1491.	4.2	105
26	Bidirectional shifts of TRPM8 channel gating by temperature and chemical agents modulate the cold sensitivity of mammalian thermoreceptors. Journal of Physiology, 2007, 581, 155-174.	2.9	99
27	Converting cold into pain. Experimental Brain Research, 2009, 196, 13-30.	1.5	99
28	Eye Dryness Sensations After Refractive Surgery: Impaired Tear Secretion or "Phantom" Cornea?. Journal of Refractive Surgery, 2007, 23, 598-602.	2.3	92
29	Tear Secretion Induced by Selective Stimulation of Corneal and Conjunctival Sensory Nerve Fibers. , 2004, 45, 2333.		91
30	Abnormal activity of corneal cold thermoreceptors underlies the unpleasant sensations in dry eye disease. Pain, 2016, 157, 399-417.	4.2	86
31	Corneal innervation and sensitivity to noxious stimuli in <i>trkA</i> knockout mice. European Journal of Neuroscience, 1998, 10, 146-152.	2.6	82
32	A Role of the Transient Receptor Potential Domain of Vanilloid Receptor I in Channel Gating. Journal of Neuroscience, 2007, 27, 11641-11650.	3.6	82
33	Identification of molecular determinants of channel gating in the transient receptor potential box of vanilloid receptor I. FASEB Journal, 2008, 22, 3298-3309.	0.5	79
34	The TFOS International Workshop on Contact Lens Discomfort: Report of the Subcommittee on Neurobiology. , 2013, 54, TFOS71.		79
35	Differences between nerve terminal impulses of polymodal nociceptors and cold sensory receptors of the guinea pig cornea. Journal of Physiology, 2001, 533, 493-501.	2.9	71
36	Functional Properties of Sensory Nerve Terminals of the Mouse Cornea. , 2017, 58, 404.		71

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37	The contribution of TRPM8 channels to cold sensing in mammalian neurones. <i>Journal of Physiology</i> , 2005, 567, 415-426.	2.9	69
38	Metalloproteinase MT5-MMP is an essential modulator of neuro-immune interactions in thermal pain stimulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 16451-16456.	7.1	69
39	Swelling-activated calcium signalling in cultured mouse primary sensory neurons. <i>European Journal of Neuroscience</i> , 2001, 13, 722-734.	2.6	66
40	Quantification and immunocytochemical characteristics of trigeminal ganglion neurons projecting to the cornea: Effect of corneal wounding. <i>European Journal of Pain</i> , 1999, 3, 31-39.	2.8	65
41	Regeneration of functional nerves within full thickness collagenâ€“phosphorylcholine corneal substitute implants in guinea pigs. <i>Biomaterials</i> , 2010, 31, 2770-2778.	11.4	65
42	TRPA1 channels: Novel targets of 1,4-dihydropyridines. <i>Channels</i> , 2008, 2, 429-438.	2.8	64
43	N-Glycosylation of TRPM8 Ion Channels Modulates Temperature Sensitivity of Cold Thermoreceptor Neurons. <i>Journal of Biological Chemistry</i> , 2012, 287, 18218-18229.	3.4	64
44	Influence of age, gender and iris color on mechanical and chemical sensitivity of the cornea and conjunctiva. <i>Experimental Eye Research</i> , 2006, 83, 932-938.	2.6	61
45	Characteristics and physiological role of hyperpolarization activated currents in mouse cold thermoreceptors. <i>Journal of Physiology</i> , 2009, 587, 1961-1976.	2.9	57
46	Selective Changes in Human Corneal Sensation Associated with Herpes Simplex Virus Keratitis. , 2010, 51, 4516.		57
47	Changes in sensory activity of ocular surface sensory nerves during allergic keratoconjunctivitis. <i>Pain</i> , 2013, 154, 2353-2362.	4.2	55
48	Tau Function and Dysfunction in Neurons. <i>Molecular Neurobiology</i> , 2002, 25, 213-232.	4.0	54
49	Nociceptive nerve activity in an experimental model of knee joint osteoarthritis of the guinea pig: Effect of intra-articular hyaluronan application. <i>Pain</i> , 2007, 130, 126-136.	4.2	54
50	Effects of Heating and Cooling on Nerve Terminal Impulses Recorded from Cold-sensitive Receptors in the Guinea-pig Cornea. <i>Journal of General Physiology</i> , 2003, 121, 427-439.	1.9	52
51	Responses of nerve fibres of the rat saphenous nerve neuroma to mechanical and chemical stimulation: an in vitro study. <i>Journal of Physiology</i> , 2000, 527, 305-313.	2.9	51
52	Recovery of Corneal Sensitivity to Mechanical and Chemical Stimulation After Laser in situ Keratomileusis. <i>Journal of Refractive Surgery</i> , 2004, 20, 229-235.	2.3	51
53	Piezo2 Mediates Low-Threshold Mechanically Evoked Pain in the Cornea. <i>Journal of Neuroscience</i> , 2020, 40, 8976-8993.	3.6	49
54	Impulse Activity in Corneal Sensory Nerve Fibers after Photorefractive Keratectomy. , 2007, 48, 4033.		48

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55	Corneal Sensory Nerve Activity in an Experimental Model of UV Keratitis. , 2014, 55, 3403.		48
56	Morphological and functional changes in TRPM8-expressing corneal cold thermoreceptor neurons during aging and their impact on tearing in mice. Journal of Comparative Neurology, 2018, 526, 1859-1874.	1.6	47
57	Capsaicin and carbon dioxide act by distinct mechanisms on sensory nerve terminals in the cat cornea. Pain, 1997, 70, 23-29.	4.2	46
58	Postnatal Changes in Membrane Properties of Mice Trigeminal Ganglion Neurons. Journal of Neurophysiology, 2002, 87, 2398-2407.	1.8	40
59	Role of TRPM8 Channels in Altered Cold Sensitivity of Corneal Primary Sensory Neurons Induced by Axonal Damage. Journal of Neuroscience, 2019, 39, 8177-8192.	3.6	38
60	Membrane-attached peptides patterned after the TRP domain (TRPducins) selectively inhibit TRPV1 channel activity. FASEB Journal, 2011, 25, 1628-1640.	0.5	37
61	Amplified Cold Transduction in Native Nociceptors by M-Channel Inhibition. Journal of Neuroscience, 2013, 33, 16627-16641.	3.6	37
62	Sensory nerve responses elicited by experimental ocular hypertension. Experimental Eye Research, 1986, 43, 759-769.	2.6	34
63	Changes in Mechanical, Chemical, and Thermal Sensitivity of the Cornea after Topical Application of Nonsteroidal Anti-inflammatory Drugs. , 2005, 46, 282.		33
64	Corneal Sensitivity in Diabetic Patients Subjected to Retinal Laser Photocoagulation. , 2011, 52, 6043.		33
65	The Immunosuppressant Macrolide Tacrolimus Activates Cold-Sensing TRPM8 Channels. Journal of Neuroscience, 2019, 39, 949-969.	3.6	33
66	Eye dryness sensations after refractive surgery: impaired tear secretion or "phantom" cornea?. Journal of Refractive Surgery, 2007, 23, 598-602.	2.3	33
67	GAP43 stimulates inositol trisphosphate-mediated calcium release in response to hypotonicity. EMBO Journal, 2003, 22, 3004-3014.	7.8	31
68	Role of <i>h</i> in the firing pattern of mammalian cold thermoreceptor endings. Journal of Neurophysiology, 2012, 108, 3009-3023.	1.8	31
69	Pain, Dryness, and Itch Sensations in Eye Surface Disorders Are Defined By a Balance Between Inflammation and Sensory Nerve Injury. Cornea, 2019, 38, S11-S24.	1.7	31
70	Design and Characterization of a Noncompetitive Antagonist of the Transient Receptor Potential Vanilloid Subunit 1 Channel With In Vivo Analgesic and Anti-inflammatory Activity. Journal of Pain, 2006, 7, 735-746.	1.4	29
71	Cold sensitivity in axotomized fibers of experimental neuromas in mice. Pain, 2006, 120, 24-35.	4.2	29
72	Activation of Scleral Cold Thermoreceptors by Temperature and Blood Flow Changes. , 2003, 44, 697.		27

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73	c-Fos expression in trigeminal nucleus neurons after chemical irritation of the cornea: Reduction by selective blockade of nociceptor chemosensitivity. <i>Experimental Brain Research</i> , 1996, 109, 56-62.	1.5	26
74	c-Jun expression after axotomy of corneal trigeminal ganglion neurons is dependent on the site of injury. <i>European Journal of Neuroscience</i> , 1999, 11, 899-906.	2.6	26
75	Comparative Effects of the Nonsteroidal Anti-inflammatory Drug Nepafenac on Corneal Sensory Nerve Fibers Responding to Chemical Irritation. , 2007, 48, 182.		26
76	Functional and Morphologic Alterations in Mechanical, Polymodal, and Cold Sensory Nerve Fibers of the Cornea Following Photorefractive Keratectomy. , 2018, 59, 2281.		26
77	The Influence of Cold Temperature on Cellular Excitability of Hippocampal Networks. <i>PLoS ONE</i> , 2012, 7, e52475.	2.5	22
78	The effects of blood osmolality changes on cat carotid body chemoreceptors in vivo. <i>Pflugers Archiv European Journal of Physiology</i> , 1979, 380, 53-58.	2.8	21
79	Irritation of the anterior segment of the eye by ultraviolet radiation: influence of nerve blockade and calcium antagonists. <i>Current Eye Research</i> , 1995, 14, 827-835.	1.5	19
80	Joint nociceptor nerve activity and pain in an animal model of acute gout and its modulation by intra-articular hyaluronan. <i>Pain</i> , 2018, 159, 739-748.	4.2	18
81	Influence of diltiazem on the ocular irritative response to nitrogen mustard. <i>Experimental Eye Research</i> , 1995, 61, 205-212.	2.6	17
82	Detection and characterization of Ca <sup>2+</sup> -activated K <sup>+</sup> channels in transformed cells of human non-pigmented ciliary epithelium. <i>Current Eye Research</i> , 1991, 10, 731-738.	1.5	16
83	Recovery of corneal sensitivity to mechanical and chemical stimulation after laser in situ keratomileusis. <i>Journal of Refractive Surgery</i> , 2004, 20, 229-35.	2.3	16
84	Expression of Cholecystokinin, Gastrin, and Their Receptors in the Mouse Cornea. , 2014, 55, 1965.		15
85	Sensory Innervation of the Eye. , 2011, , 363-384.		15
86	Three-dimensional reconstruction of scleral cold thermoreceptors of the cat eye. <i>Journal of Comparative Neurology</i> , 2001, 441, 148-154.	1.6	13
87	Sodium Channel Blockers Modulate Abnormal Activity of Regenerating Nociceptive Corneal Nerves After Surgical Lesion. , 2021, 62, 2.		13
88	Polymodality in Nociceptive Neurons: Experimental Models of Chemotransduction. , 1994, , 87-117.		13
89	Barium ions inhibit the dynamic response of guinea-pig corneal cold receptors to heating but not to cooling. <i>Journal of Physiology</i> , 2006, 575, 573-581.	2.9	11
90	Preclinical pharmacology, ocular tolerability and ocular hypotensive efficacy of a novel non-peptide bradykinin mimetic small molecule. <i>Experimental Eye Research</i> , 2014, 128, 170-180.	2.6	10

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91	TRPV1 channel modulation by hyaluronan reduces pain. Channels, 2016, 10, 81-82.	2.8	10
92	Sympathetic fibers in the aortic nerve of the cat. Brain Research, 1972, 43, 25-35.	2.2	9
93	Lacosamide diminishes dryness-induced hyperexcitability of corneal cold sensitive nerve terminals. European Journal of Pharmacology, 2016, 787, 2-8.	3.5	7
94	Unilateral Corneal Insult Also Alters Sensory Nerve Activity in the Contralateral Eye. Frontiers in Medicine, 2021, 8, 767967.	2.6	7
95	Inhibitory Effect of Amitriptyline on the Impulse Activity of Cold Thermoreceptor Terminals of Intact and Tear-Deficient Guinea Pig Corneas. Journal of Ocular Pharmacology and Therapeutics, 2018, 34, 195-203.	1.4	6
96	Altered thermal sensitivity in neurons injured by infraorbital nerve lesion. Neuroscience Letters, 2011, 488, 168-172.	2.1	5
97	Optical Assessment of Nociceptive TRP Channel Function at the Peripheral Nerve Terminal. International Journal of Molecular Sciences, 2021, 22, 481.	4.1	5
98	Pain in and around the eye. , 2006, , 887-901.		3
99	Building Bridges through Science. Neuron, 2017, 96, 730-735.	8.1	2
100	Carlos Belmonte, MD, PhD. Ocular Surface, 2011, 9, 181-183.	4.4	1
101	Lección Magistral Andrés Laguna: La exploración del cerebro y la neurobiología española. Aupados a hombros de gigantes. Educacion Medica, 2015, 16, 141-148.	0.3	1
102	José A. Zadunaisky (1932-2005). Experimental Eye Research, 2006, 82, 1-2.	2.6	0
103	Cover Image, Volume 526, Issue 11. Journal of Comparative Neurology, 2018, 526, C1-C1.	1.6	0
104	Dolor ocular y periocular. , 2007, , 911-924.		0