

Alan S Verkman

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106
papers

5,063
citations

32
h-index

70
g-index

108
ext. papers

6,105
ext. citations

8.5
avg, IF

6.41
L-index

#	Paper	IF	Citations
106	Aquaporin water channels in the nervous system. <i>Nature Reviews Neuroscience</i> , 2013 , 14, 265-77	3.6	458
105	Solute and macromolecule diffusion in cellular aqueous compartments. <i>Trends in Biochemical Sciences</i> , 2002 , 27, 27-33	3	458
104	Aquaporins: important but elusive drug targets. <i>Nature Reviews Drug Discovery</i> , 2014 , 13, 259-77	14.4	360
103	Chloride channels as drug targets. <i>Nature Reviews Drug Discovery</i> , 2009 , 8, 153-71	14.4	349
102	Mechanism-based corrector combination restores β 508-CFTR folding and function. <i>Nature Chemical Biology</i> , 2013 , 9, 444-54	3.2	275
101	Some gating potentiators, including VX-770, diminish β 508-CFTR functional expression. <i>Science Translational Medicine</i> , 2014 , 6, 246ra97	5.2	223
100	Test of the glymphatic hypothesis demonstrates diffusive and aquaporin-4-independent solute transport in rodent brain parenchyma. <i>ELife</i> , 2017 , 6,	2.4	193
99	Treatment of neuromyelitis optica: state-of-the-art and emerging therapies. <i>Nature Reviews Neurology</i> , 2014 , 10, 493-506	3.7	177
98	Aquaporins at a glance. <i>Journal of Cell Science</i> , 2011 , 124, 2107-12	1.3	165
97	Physiological importance of aquaporin water channels. <i>Annals of Medicine</i> , 2002 , 34, 192-200	1.2	135
96	TRPV4 and AQP4 Channels Synergistically Regulate Cell Volume and Calcium Homeostasis in Retinal Müller Glia. <i>Journal of Neuroscience</i> , 2015 , 35, 13525-37	1.6	128
95	Spatial model of convective solute transport in brain extracellular space does not support a "glymphatic" mechanism. <i>Journal of General Physiology</i> , 2016 , 148, 489-501	1	120
94	Secretory diarrhoea: mechanisms and emerging therapies. <i>Nature Reviews Gastroenterology and Hepatology</i> , 2015 , 12, 446-57	6.5	101
93	The "glymphatic" mechanism for solute clearance in Alzheimer's disease: game changer or unproven speculation?. <i>FASEB Journal</i> , 2018 , 32, 543-551	0.3	83
92	The aquaporin-4 water channel as a potential drug target in neurological disorders. <i>Expert Opinion on Therapeutic Targets</i> , 2017 , 21, 1161-1170	1.5	79
91	Knock-out models reveal new aquaporin functions. <i>Handbook of Experimental Pharmacology</i> , 2009 , 359-818		75
90	Diabetes insipidus. <i>Nature Reviews Disease Primers</i> , 2019 , 5, 54	16.4	73

89	Aquaporin-3 mediates hydrogen peroxide-dependent responses to environmental stress in colonic epithelia. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 568-573	3.3	68
88	Aggregation state determines the localization and function of M1- and M23-aquaporin-4 in astrocytes. <i>Journal of Cell Biology</i> , 2014 , 204, 559-73	2.4	68
87	Physiological importance of aquaporin water channels. <i>Annals of Medicine</i> , 2002 , 34, 192-200	1.2	55
86	Correctors and Potentiators Rescue Function of the Truncated W1282X-Cystic Fibrosis Transmembrane Regulator (CFTR) Translation Product. <i>Journal of Biological Chemistry</i> , 2017 , 292, 771-785 ^{1,4}	1.4	53
85	Aquaporin-4: orthogonal array assembly, CNS functions, and role in neuromyelitis optica. <i>Acta Pharmacologica Sinica</i> , 2011 , 32, 702-10	2.4	51
84	Mildly Reduced Brain Swelling and Improved Neurological Outcome in Aquaporin-4 Knockout Mice following Controlled Cortical Impact Brain Injury. <i>Journal of Neurotrauma</i> , 2015 , 32, 1458-64	1.3	47
83	CFTR activator increases intestinal fluid secretion and normalizes stool output in a mouse model of constipation. <i>Cellular and Molecular Gastroenterology and Hepatology</i> , 2016 , 2, 317-327	1.8	46
82	Tolerance checkpoint bypass permits emergence of pathogenic T cells to neuromyelitis optica autoantigen aquaporin-4. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 14781-14786	3.3	44
81	Complement-independent retinal pathology produced by intravitreal injection of neuromyelitis optica immunoglobulin G. <i>Journal of Neuroinflammation</i> , 2016 , 13, 275	2.9	44
80	Experimental mouse model of optic neuritis with inflammatory demyelination produced by passive transfer of neuromyelitis optica-immunoglobulin G. <i>Journal of Neuroinflammation</i> , 2014 , 11, 16	2.9	41
79	Physiological importance of aquaporin water channels		41
78	Superresolution Imaging of Aquaporin-4 Cluster Size in Antibody-Stained Paraffin Brain Sections. <i>Biophysical Journal</i> , 2015 , 109, 2511-2522	1	37
77	Complement-dependent bystander injury to neurons in AQP4-IgG seropositive neuromyelitis optica. <i>Journal of Neuroinflammation</i> , 2018 , 15, 294	2.9	35
76	Translating molecular physiology of intestinal transport into pharmacologic treatment of diarrhea: stimulation of Na ⁺ absorption. <i>Clinical Gastroenterology and Hepatology</i> , 2014 , 12, 27-31	1.5	34
75	Aquaporin-Targeted Therapeutics: State-of-the-Field. <i>Advances in Experimental Medicine and Biology</i> , 2017 , 969, 239-250	0.9	33
74	Bystander mechanism for complement-initiated early oligodendrocyte injury in neuromyelitis optica. <i>Acta Neuropathologica</i> , 2017 , 134, 35-44	3.4	32
73	Benzopyrimido-pyrrolo-oxazine-dione CFTR inhibitor (R)-BPO-27 for antisecretory therapy of diarrheas caused by bacterial enterotoxins. <i>FASEB Journal</i> , 2017 , 31, 751-760	0.3	32
72	Muddying the water in brain edema?. <i>Trends in Neurosciences</i> , 2015 , 38, 331-2	3.4	31

71	Aquaporin-4 expression in adult and developing mouse and rat kidney. <i>Journal of the American Society of Nephrology: JASN</i> , 2001 , 12, 1795-1804	3.2	30
70	Aquaporin-4 reduces neuropathology in a mouse model of Alzheimer β disease by remodeling peri-plaque astrocyte structure. <i>Acta Neuropathologica Communications</i> , 2019 , 7, 74	1.9	29
69	Urea transporter proteins as targets for small-molecule diuretics. <i>Nature Reviews Nephrology</i> , 2015 , 11, 113-23	4.3	28
68	Mutagenesis of the aquaporin 4 extracellular domains defines restricted binding patterns of pathogenic neuromyelitis optica IgG. <i>Journal of Biological Chemistry</i> , 2015 , 290, 12123-34	1.4	27
67	Transient hyperckemia in the setting of neuromyelitis optica (NMO). <i>Muscle and Nerve</i> , 2014 , 50, 859-62	1	26
66	Antidiarrheal efficacy and cellular mechanisms of a Thai herbal remedy. <i>PLoS Neglected Tropical Diseases</i> , 2014 , 8, e2674	1.2	26
65	Imaging Renal Urea Handling in Rats at Millimeter Resolution using Hyperpolarized Magnetic Resonance Relaxometry. <i>Tomography</i> , 2016 , 2, 125-135	0.6	26
64	Combination potentiator (Ro-potentiator) therapy for CF caused by CFTR mutants, including N1303K, that are poorly responsive to single potentiators. <i>Journal of Cystic Fibrosis</i> , 2018 , 17, 595-606	0.8	25
63	Marked central nervous system pathology in CD59 knockout rats following passive transfer of Neuromyelitis optica immunoglobulin G. <i>Acta Neuropathologica Communications</i> , 2017 , 5, 15	1.9	24
62	Microfluidics platform for measurement of volume changes in immobilized intestinal enteroids. <i>Biomicrofluidics</i> , 2014 , 8, 024106	1.1	24
61	Nanomolar-potency Ro-potentiatorPtherapy for cystic fibrosis caused by a defined subset of minimal function CFTR mutants. <i>Scientific Reports</i> , 2019 , 9, 17640	1.5	24
60	Complement-independent bystander injury in AQP4-IgG seropositive neuromyelitis optica produced by antibody-dependent cellular cytotoxicity. <i>Acta Neuropathologica Communications</i> , 2019 , 7, 112	1.9	23
59	SLC26A3 inhibitor identified in small molecule screen blocks colonic fluid absorption and reduces constipation. <i>JCI Insight</i> , 2018 , 3,	2.5	22
58	Substituted 2-Acylaminocycloalkylthiophene-3-carboxylic Acid Arylamides as Inhibitors of the Calcium-Activated Chloride Channel Transmembrane Protein 16A (TMEM16A). <i>Journal of Medicinal Chemistry</i> , 2017 , 60, 4626-4635	2.2	21
57	CrossTalk opposing view: Going against the flow: interstitial solute transport in brain is diffusive and aquaporin-4 independent. <i>Journal of Physiology</i> , 2019 , 597, 4421-4424	1	21
56	Small-Molecule Inhibitors of Pendrin Potentiate the Diuretic Action of Furosemide. <i>Journal of the American Society of Nephrology: JASN</i> , 2016 , 27, 3706-3714	3.2	21
55	Affinity-matured Aquaporin antibody anti-aquaporin-4 antibody for therapy of seropositive neuromyelitis optica spectrum disorders. <i>Neuropharmacology</i> , 2020 , 162, 107827	1.4	21
54	Complement regulator CD59 prevents peripheral organ injury in rats made seropositive for neuromyelitis optica immunoglobulin G. <i>Acta Neuropathologica Communications</i> , 2017 , 5, 57	1.9	20

53	Cystic fibrosis transmembrane conductance regulator dysfunction in platelets drives lung hyperinflammation. <i>Journal of Clinical Investigation</i> , 2020 , 130, 2041-2053	4	20
52	High-Potency Phenylquinoxalinone Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Activators. <i>Journal of Medicinal Chemistry</i> , 2017 , 60, 2401-2410	2.2	18
51	Aquaporin Water Channels and Hydrocephalus. <i>Pediatric Neurosurgery</i> , 2017 , 52, 409-416	0.2	18
50	cAMP Stimulates SLC26A3 Activity in Human Colon by a CFTR-Dependent Mechanism That Does Not Require CFTR Activity. <i>Cellular and Molecular Gastroenterology and Hepatology</i> , 2019 , 7, 641-653	1.8	18
49	Experimental animal models of aquaporin-4-IgG-seropositive neuromyelitis optica spectrum disorders: progress and shortcomings. <i>Brain Pathology</i> , 2020 , 30, 13-25	1.5	17
48	Aquaporin-3 deletion in mice results in renal collecting duct abnormalities and worsens ischemia-reperfusion injury. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2017 , 1863, 1231-1241	2.1	16
47	Aquaporin-3 potentiates allergic airway inflammation in ovalbumin-induced murine asthma. <i>Scientific Reports</i> , 2016 , 6, 25781	1.5	16
46	Inhibition of aquaporin-3 in macrophages by a monoclonal antibody as potential therapy for liver injury. <i>Nature Communications</i> , 2020 , 11, 5666	5	15
45	Salt-sparing diuretic action of a water-soluble urea analog inhibitor of urea transporters UT-A and UT-B in rats. <i>Kidney International</i> , 2015 , 88, 311-20	2.7	14
44	Intestinal epithelial potassium channels and CFTR chloride channels activated in ErbB tyrosine kinase inhibitor diarrhea. <i>JCI Insight</i> , 2019 , 4,	2.5	14
43	CD55 upregulation in astrocytes by statins as potential therapy for AQP4-IgG seropositive neuromyelitis optica. <i>Journal of Neuroinflammation</i> , 2019 , 16, 57	2.9	13
42	Aquaporin-1 regulates platelet procoagulant membrane dynamics and in vivo thrombosis. <i>JCI Insight</i> , 2018 , 3,	2.5	13
41	Nanomolar-Potency Aminophenyl-1,3,5-triazine Activators of the Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Chloride Channel for Prosecretory Therapy of Dry Eye Diseases. <i>Journal of Medicinal Chemistry</i> , 2017 , 60, 1210-1218	2.2	12
40	Emerging therapeutic targets for neuromyelitis optica spectrum disorder. <i>Expert Opinion on Therapeutic Targets</i> , 2020 , 24, 219-229	1.5	12
39	Phenylquinoxalinone CFTR activator as potential prosecretory therapy for constipation. <i>Translational Research</i> , 2017 , 182, 14-26.e4	2.5	11
38	Aquaporin gene delivery to kidney. <i>Kidney International</i> , 2002 , 61, S120-4	2.7	9
37	Comparative molecular dynamics study of neuromyelitis optica-immunoglobulin G binding to aquaporin-4 extracellular domains. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2017 , 1859, 1326-1334 ^{1.1}		8
36	Aquaporin-3 deficiency slows cyst enlargement in experimental mouse models of autosomal dominant polycystic kidney disease. <i>FASEB Journal</i> , 2019 , 33, 6185-6196	0.3	8

35	Synthesis and evaluation of 5,6-disubstituted thiopyrimidine aryl aminothiazoles as inhibitors of the calcium-activated chloride channel TMEM16A/Ano1. <i>Journal of Enzyme Inhibition and Medicinal Chemistry</i> , 2016 , 31, 1362-8	1.9	8
34	Drug discovery and epithelial physiology. <i>Current Opinion in Nephrology and Hypertension</i> , 2004 , 13, 563-8.	8.9	8
33	Small-molecule inhibitors of urea transporters. <i>Sub-Cellular Biochemistry</i> , 2014 , 73, 165-77	1.2	8
32	Slowed gastric emptying and improved oral glucose tolerance produced by a nanomolar-potency inhibitor of calcium-activated chloride channel TMEM16A. <i>FASEB Journal</i> , 2019 , 33, 11247-11257	0.3	7
31	CFTR modulator therapy for cystic fibrosis caused by the rare c.3700A>G mutation. <i>Journal of Cystic Fibrosis</i> , 2021 , 20, 452-459	0.8	7
30	A small molecule inhibitor of the chloride channel TMEM16A blocks vascular smooth muscle contraction and lowers blood pressure in spontaneously hypertensive rats. <i>Kidney International</i> , 2021 , 100, 311-320	2.7	7
29	4,8-Dimethylcoumarin Inhibitors of Intestinal Anion Exchanger slc26a3 (Downregulated in Adenoma) for Anti-Absorptive Therapy of Constipation. <i>Journal of Medicinal Chemistry</i> , 2019 , 62, 8330-8337	3.2	6
28	Rebuttal from Alex J. Smith and Alan S. Verkman. <i>Journal of Physiology</i> , 2019 , 597, 4427-4428	1	6
27	Inhibition of CFTR-mediated intestinal chloride secretion as potential therapy for bile acid diarrhea. <i>FASEB Journal</i> , 2019 , 33, 10924-10934	0.3	6
26	Noninvasive, Targeted Creation of Neuromyelitis Optica Pathology in AQP4-IgG Seropositive Rats by Pulsed Focused Ultrasound. <i>Journal of Neuropathology and Experimental Neurology</i> , 2019 , 78, 47-56	0.7	6
25	Targeting the complement system in neuromyelitis optica spectrum disorder. <i>Expert Opinion on Biological Therapy</i> , 2021 , 21, 1073-1086	1.2	6
24	Hollow Micropillar Array Method for High-Capacity Drug Screening on Filter-Grown Epithelial Cells. <i>Analytical Chemistry</i> , 2018 , 90, 7675-7681	2.7	6
23	Bioactive Thymosin Alpha-1 Does Not Influence F508del-CFTR Maturation and Activity. <i>Scientific Reports</i> , 2019 , 9, 10310	1.5	5
22	Current and potential future applications of human stem cell models in drug development. <i>Journal of Clinical Investigation</i> , 2020 , 130, 3342-3344	4	5
21	Nanomolar Potency Aminophenyltriazine CFTR Activator Reverses Corneal Epithelial Injury in a Mouse Model of Dry Eye. <i>Journal of Ocular Pharmacology and Therapeutics</i> , 2020 , 36, 147-153	0.7	4
20	Pro-Secretory Activity and Pharmacology in Rabbits of an Aminophenyl-1,3,5-Triazine CFTR Activator for Dry Eye Disorders 2017 , 58, 4506-4513		4
19	Application of fluorescent dextrans to the brain surface under constant pressure reveals AQP4-independent solute uptake. <i>Journal of General Physiology</i> , 2021 , 153,	1	4
18	Fluorescent indicator methods to assay functional CFTR expression in cells. <i>Methods in Molecular Medicine</i> , 2002 , 70, 187-96		3

17	Aquaporin-3 regulates endosome-to-cytosol transfer via lipid peroxidation for cross presentation. <i>PLoS ONE</i> , 2020 , 15, e0238484	1.2	3
16	Author response: Test of the lymphatic hypothesis demonstrates diffusive and aquaporin-4-independent solute transport in rodent brain parenchyma 2017 ,		3
15	1-BENZYLPIRO[PIPERIDINE-4,1PYRIDO[3,4-b]indole] co-potentiators for minimal function CFTR mutants. <i>European Journal of Medicinal Chemistry</i> , 2021 , 209, 112888	2	3
14	The evolving mystery of why skeletal muscle is spared in seropositive neuromyelitis optica. <i>Journal of Cellular and Molecular Medicine</i> , 2018 , 22, 2039-2040	1.6	2
13	B508-CFTR Modulator Screen Based on Cell Surface Targeting of a Chimeric Nucleotide Binding Domain 1 Reporter. <i>SLAS Discovery</i> , 2018 , 23, 823-831	1	2
12	A simple method to generate human airway epithelial organoids with externally-oriented apical membranes.. <i>American Journal of Physiology - Lung Cellular and Molecular Physiology</i> , 2022 ,	1.4	2
11	Ocular Surface Potential Difference Measured in Human Subjects to Study Ocular Surface Ion Transport. <i>Translational Vision Science and Technology</i> , 2020 , 9, 20	0.9	2
10	SLC26A6-selective inhibitor identified in a small-molecule screen blocks fluid absorption in small intestine. <i>JCI Insight</i> , 2021 , 6,	2.5	2
9	Synthesis and evaluation of tetrahydropyrazolopyridine inhibitors of anion exchange protein SLC26A4 (pendrin). <i>Bioorganic and Medicinal Chemistry Letters</i> , 2019 , 29, 2119-2123	0.8	1
8	Repurposing calcium-sensing receptor agonist cinacalcet for treatment of CFTR-mediated secretory diarrheas. <i>JCI Insight</i> , 2021 , 6,	2.5	1
7	Chloride transport modulators as drug candidates. <i>American Journal of Physiology - Cell Physiology</i> , 2021 , 321, C932-C946	1.6	0
6	Aquaporin-4 water channels and brain edema 2002 , 125-134		
5	AQP1 inactivation did not affect the development of proximal tubular vacuolization and polycystic kidneys induced by AQP11 disruption. <i>FASEB Journal</i> , 2007 , 21, A505	0.3	
4	Aquaporin-3 regulates endosome-to-cytosol transfer via lipid peroxidation for cross presentation 2020 , 15, e0238484		
3	Aquaporin-3 regulates endosome-to-cytosol transfer via lipid peroxidation for cross presentation 2020 , 15, e0238484		
2	Aquaporin-3 regulates endosome-to-cytosol transfer via lipid peroxidation for cross presentation 2020 , 15, e0238484		
1	Aquaporin-3 regulates endosome-to-cytosol transfer via lipid peroxidation for cross presentation 2020 , 15, e0238484		