Justin A Macdonald

List of Publications by Year
in descending order

121 papers	5,175 citations	109137 35 h-index	95083 68 g-index
127 all docs	127 docs citations	127 times ranked	6607 citing authors

#	Article	IF	Citations
1	Activation of neuronal P2X7 receptorâ€“pannexin-1 mediates death of enteric neurons during colitis. Nature Medicine, 2012, 18, 600-604.	15.2	369
2	NLRP3 inflammasome plays a key role in the regulation of intestinal homeostasis. Inflammatory Bowel Diseases, 2011, 17, 1359-1372.	0.9	366
3	Targeting Aquaporin-4 Subcellular Localization to Treat Central Nervous System Edema. Cell, 2020, 181, 784-799.e19.	13.5	271
4	The myosin phosphatase targeting protein (MYPT) family: A regulated mechanism for achieving substrate specificity of the catalytic subunit of protein phosphatase type 1Î´. Archives of Biochemistry and Biophysics, 2011, 510, 147-159.	1.4	217
5	NLRP3 inflammasome inhibition is disrupted in a group of auto-inflammatory disease CAPS mutations. Nature Immunology, 2016, 17, 1176-1186.	7.0	216
6	Identification of the endogenous smooth muscle myosin phosphatase-associated kinase. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 2419-2424.	3.3	201
7	Smooth Muscle Phosphatase Is Regulated in Vivo by Exclusion of Phosphorylation of Threonine 696 of MYPT1 by Phosphorylation of Serine 695 in Response to Cyclic Nucleotides. Journal of Biological Chemistry, 2004, 279, 34496-34504.	1.6	201
8	Clostridium difficile Toxinâ€“Induced Inflammation and Intestinal Injury Are Mediated by the Inflammasome. Gastroenterology, 2010, 139, 542-552.e3.	0.6	198
9	Phosphorylation of the myosin phosphatase target subunit by integrin-linked kinase. Biochemical Journal, 2002, 366, 211-216.	1.7	158
10	The Nlrp3 inflammasome promotes myocardial dysfunction in structural cardiomyopathy through interleukinâ€•1Î². Experimental Physiology, 2013, 98, 462-472.	0.9	150
11	The airway epithelium nucleotide-binding domain and leucine-rich repeat protein 3 inflammasome is activated by urban particulate matter. Journal of Allergy and Clinical Immunology, 2012, 129, 1116-1125.e6.	1.5	144
12	Regulation of Ground Squirrel Na+K+-ATPase Activity by Reversible Phosphorylation during Hibernation. Biochemical and Biophysical Research Communications, 1999, 254, 424-429.	1.0	125
13	Shiga Toxin/Lipopolysaccharide Activates Caspase-4 and Gasdermin D to Trigger Mitochondrial Reactive Oxygen Species Upstream of the NLRP3 Inflammasome. Cell Reports, 2018, 25, 1525-1536.e7.	2.9	117
14	C-terminal Repeat Domain Kinase I Phosphorylates Ser2 and Ser5 of RNA Polymerase II C-terminal Domain Repeats. Journal of Biological Chemistry, 2004, 279, 24957-24964.	1.6	112
15	Dual Ser and Thr phosphorylation of CPI-17, an inhibitor of myosin phosphatase, by MYPT-associated kinase. FEBS Letters, 2001, 493, 91-94.	1.3	105
16	Integrin-linked kinase is responsible for Ca2+-independent myosin diphosphorylation and contraction of vascular smooth muscle. Biochemical Journal, 2005, 392, 641-648.	1.7	103
17	Parasitic helminths: a pharmacopeia of anti-inflammatory molecules. Parasitology, 2009, 136, 125-147.	0.7	93
18	Extracts of the Rat Tapeworm,<i>Hymenolepis diminuta</i>, Suppress Macrophage Activation<i>In Vitro</i>and Alleviate Chemically Induced Colitis in Mice. Infection and Immunity, 2010, 78, 1364-1375.	1.0	93

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19	Smooth Muscle Myosin Phosphatase-associated Kinase Induces Ca2+ Sensitization via Myosin Phosphatase Inhibition. Journal of Biological Chemistry, 2002, 277, 23441-23446.	1.6	82
20	Hypoxia-Inducible Factor Signaling Provides Protection in Clostridium difficile-Induced Intestinal Injury. Gastroenterology, 2010, 139, 259-269.e3.	0.6	81
21	Renal immune surveillance and dipeptidase-1 contribute to contrast-induced acute kidney injury. Journal of Clinical Investigation, 2018, 128, 2894-2913.	3.9	74
22	Biochemical and structural aspects of the ATPâ€binding domain in inflammasomeâ€forming human NLRP proteins. IUBMB Life, 2013, 65, 851-862.	1.5	67
23	The regulation of smooth muscle contractility by zipper-interacting protein kinaseThis paper is one of a selection of papers published in this Special Issue, entitled Young Investigators' Forum.. Canadian Journal of Physiology and Pharmacology, 2007, 85, 79-87.	0.7	66
24	Site-specific Phosphorylation and Point Mutations of Telokin Modulate Its Ca2+-desensitizing Effect in Smooth Muscle. Journal of Biological Chemistry, 2001, 276, 24519-24524.	1.6	51
25	Characterization of protein kinase pathways responsible for Ca2+ sensitization in rat ileal longitudinal smooth muscle. American Journal of Physiology - Renal Physiology, 2007, 293, G699-G710.	1.6	51
26	Intrarectal Instillation of Clostridium difficile Toxin A Triggers Colonic Inflammation and Tissue Damage: Development of a Novel and Efficient Mouse Model of Clostridium difficile Toxin Exposure. Infection and Immunity, 2012, 80, 4474-4484.	1.0	50
27	Mitogen-activated protein kinases and selected downstream targets display organ-specific responses in the hibernating ground squirrel. International Journal of Biochemistry and Cell Biology, 2005, 37, 679-691.	1.2	47
28	A Strategy for the Rapid Identification of Phosphorylation Sites in the Phosphoproteome. Molecular and Cellular Proteomics, 2002, 1, 314-322.	2.5	46
29	Cross-talk between Rho-associated Kinase and Cyclic Nucleotide-dependent Kinase Signaling Pathways in the Regulation of Smooth Muscle Myosin Light Chain Phosphatase. Journal of Biological Chemistry, 2012, 287, 36356-36369.	1.6	45
30	ATP-Binding and Hydrolysis in Inflammasome Activation. Molecules, 2020, 25, 4572.	1.7	43
31	The P2Y6 Receptor Mediates Clostridium difficile Toxin-Induced CXCL8/IL-8 Production and Intestinal Epithelial Barrier Dysfunction. PLoS ONE, 2013, 8, e81491.	1.1	43
32	Coimmunopurification of Phosphorylated Bacterial- and Plant-Type Phospho<i>enol</i>pyruvate Carboxylases with the Plastidial Pyruvate Dehydrogenase Complex from Developing Castor Oil Seeds Â Â Â. Plant Physiology, 2008, 146, 1346-1357.	2.3	41
33	Fluorescence Linked Enzyme Chemoproteomic Strategy for Discovery of a Potent and Selective DAPK1 and ZIPK Inhibitor. ACS Chemical Biology, 2013, 8, 2715-2723.	1.6	41
34	Targeting Hypoxia-Inducible Factor-1 (HIF-1) Signaling in Therapeutics: Implications for the Treatment of Inflammatory Bowel Disease. Recent Patents on Inflammation and Allergy Drug Discovery, 2009, 3, 1-16.	3.9	40
35	Mitogen-Activated Protein Kinase Pathways Contribute to Hypercontractility and Increased Ca2+ Sensitization in Murine Experimental Colitis. Molecular Pharmacology, 2009, 75, 1031-1041.	1.0	38
36	Chemical Genetics of Zipper-interacting Protein Kinase Reveal Myosin Light Chain as a Bona Fide Substrate in Permeabilized Arterial Smooth Muscle. Journal of Biological Chemistry, 2011, 286, 36978-36991.	1.6	38

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37	Vitamin D3Metabolites Enhance the NLRP3-Dependent Secretion of IL-1Î² From Human THP-1 Monocytic Cells. Journal of Cellular Biochemistry, 2015, 116, 711-720.	1.2	37
38	cAMP-dependent protein kinase from brown adipose tissue: temperature effects on kinetic properties and enzyme role in hibernating ground squirrels. Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology, 1998, 168, 513-525.	0.7	35
39	Modulation of smooth muscle contractility by CHASM, a novel member of the smoothelin family of proteins. FEBS Letters, 2004, 573, 207-213.	1.3	35
40	Cyclic AMP-dependent protein kinase: role in anoxia and freezing tolerance of the marine periwinkle Littorina littorea. Marine Biology, 1999, 133, 193-203.	0.7	32
41	The role of the calponin homology domain of smoothelin-like 1 (SMTNL1) in myosin phosphatase inhibition and smooth muscle contraction. Molecular and Cellular Biochemistry, 2009, 327, 93-100.	1.4	32
42	Regulation of Smooth Muscle Myosin Light Chain Phosphatase by Multisite Phosphorylation of the Myosin Targeting Subunit, MYPT1. Cardiovascular & Hematological Disorders Drug Targets, 2018, 18, 4-13.	0.2	32
43	Phosphorylation of telokin by cyclic nucleotide kinases and the identification of in vivo phosphorylation sites in smooth muscle. FEBS Letters, 2000, 479, 83-88.	1.3	31
44	Solution Structure of the Calponin Homology (CH) Domain from the Smoothelin-like 1 Protein. Journal of Biological Chemistry, 2008, 283, 20569-20578.	1.6	27
45	Structureâ€"Activity Relationships for Selected Sulfur-Rich Antithrombotic Compounds. Biochemical and Biophysical Research Communications, 2000, 273, 421-424.	1.0	26
46	Improving upon the in vitro biological activity of antithrombotic disulfides. Blood Coagulation and Fibrinolysis, 2004, 15, 447-450.	0.5	26
47	Fatty acid binding proteins and fatty acid catabolism in marine invertebrates: Peroxisomal Î²-oxidation. Invertebrate Reproduction and Development, 1994, 25, 73-82.	0.3	23
48	Effects of phosphorylation on the NLRP3 inflammasome. Archives of Biochemistry and Biophysics, 2019, 670, 43-57.	1.4	23
49	Identification and characterization of D-AKAP1 as a major adipocyte PKA and PP1 binding protein. Biochemical and Biophysical Research Communications, 2006, 346, 351-357.	1.0	21
50	Targeting Pim Kinases and DAPK3 to Control Hypertension. Cell Chemical Biology, 2018, 25, 1195-1207.e32.	2.5	21
51	Temperature and phosphate effects on allosteric phenomena of phosphofructokinase from a hibernating ground squirrel (Spermophilus lateralis). FEBS Journal, 2004, 272, 120-128.	2.2	20
52	Exploring the interplay of barrier function and leukocyte recruitment in intestinal inflammation by targeting fucosyltransferase VII and trefoil factor 3. American Journal of Physiology - Renal Physiology, 2010, 299, G43-G53.	1.6	19
53	Novel Contributions of the Smoothelinâ€like 1 Protein in Vascular Smooth Muscle Contraction and its Potential Involvement in Myogenic Tone. Microcirculation, 2014, 21, 249-258.	1.0	19
54	A Small Molecule Pyrazolo[3,4-<i>d</i>]Pyrimidinone Inhibitor of Zipper-Interacting Protein Kinase Suppresses Calcium Sensitization of Vascular Smooth Muscle. Molecular Pharmacology, 2016, 89, 105-117.	1.0	19

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55	Pregnane X Receptor Activation Triggers Rapid ATP Release in Primed Macrophages That Mediates NLRP3 Inflammasome Activation. Journal of Pharmacology and Experimental Therapeutics, 2019, 370, 44-53.	1.3	18
56	The contribution of protein kinase C and CPIâ€•17 signaling pathways to hypercontractility in murine experimental colitis. Neurogastroenterology and Motility, 2012, 24, e15-26.	1.6	17
57	A novel inhibitory effect of oxazol-5-one compounds on ROCKII signaling in human coronary artery vascular smooth muscle cells. Scientific Reports, 2016, 6, 32118.	1.6	17
58	Analysis of phosphorylation of the myosin-targeting subunit of myosin light chain phosphatase by Phos-tag SDS-PAGE. American Journal of Physiology - Cell Physiology, 2016, 310, C681-C691.	2.1	16
59	Proteomic Analysis of Calcium/Calmodulin-dependent Protein Kinase I and IV in Vitro Substrates Reveals Distinct Catalytic Preferences. Journal of Biological Chemistry, 2003, 278, 10516-10522.	1.6	15
60	<scp>ERK</scp> and p38<scp>MAPK</scp> pathways regulate myosin light chain phosphatase and contribute to Ca²⁺ sensitization of intestinal smooth muscle contraction. Neurogastroenterology and Motility, 2015, 27, 135-146.	1.6	15
61	Purification and characterization of fructose bisphosphate aldolase from the ground squirrel, Spermophilus lateralis: enzyme role in mammalian hibernation. Archives of Biochemistry and Biophysics, 2002, 408, 279-285.	1.4	14
62	The effect of hibernation on protein phosphatases from ground squirrel organs. Archives of Biochemistry and Biophysics, 2007, 468, 234-243.	1.4	14
63	Inhibition of zipper-interacting protein kinase function in smooth muscle by a myosin light chain kinase pseudosubstrate peptide. American Journal of Physiology - Cell Physiology, 2007, 292, C1951-C1959.	2.1	14
64	Smooth muscle phenotypic plasticity in mechanical obstruction of the small intestine. Neurogastroenterology and Motility, 2008, 20, 737-740.	1.6	14
65	Ca²⁺-independent contraction of longitudinal ileal smooth muscle is potentiated by a zipper-interacting protein kinase pseudosubstrate peptide. American Journal of Physiology - Renal Physiology, 2009, 297, G361-G370.	1.6	14
66	Differential mechanisms of adenosineâ€•and ATPÎ³Sâ€•induced microvascular endothelial barrier strengthening. Journal of Cellular Physiology, 2019, 234, 5863-5879.	2.0	14
67	Attenuation of <i>Clostridium difficile</i> toxinâ€•induced damage to epithelial barrier by ectoâ€•5â€²â€•nucleotidase (<scp>CD</scp>73) and adenosine receptor signaling. Neurogastroenterology and Motility, 2013, 25, e441-53.	1.6	13
68	Smoothelins and the Control of Muscle Contractility. Advances in Pharmacology, 2018, 81, 39-78.	1.2	13
69	Rho-associated kinase and zipper-interacting protein kinase, but not myosin light chain kinase, are involved in the regulation of myosin phosphorylation in serum-stimulated human arterial smooth muscle cells. PLoS ONE, 2019, 14, e0226406.	1.1	13
70	Application of immobilized ATP to the study of NLRP inflammasomes. Archives of Biochemistry and Biophysics, 2019, 670, 104-115.	1.4	13
71	In situ Analysis of Smoothelin-like 1 and Calmodulin Interactions in Smooth Muscle Cells by Proximity Ligation. Journal of Cellular Biochemistry, 2015, 116, 2667-2675.	1.2	12
72	Synthesis and Chlorination of Chloromethyl Methylsulfonylmethyl Sulfide. Australian Journal of Chemistry, 1997, 50, 683.	0.5	12

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73	Gastrointestinal dysbiosis and the use of fecal microbial transplantation inClostridium difficileinfection. World Journal of Gastrointestinal Pathophysiology, 2015, 6, 169.	0.5	12
74	Protein phosphatase type-1 from skeletal muscle of the freeze-tolerant wood frog. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2002, 131, 27-36.	0.7	11
75	Staurosporine inhibition of zipper-interacting protein kinase contractile effects in gastrointestinal smooth muscle. Biochemistry and Cell Biology, 2007, 85, 111-120.	0.9	11
76	Glycation of wood frog (Rana sylvatica) hemoglobin and blood proteins: In vivo and in vitro studies. Cryobiology, 2009, 59, 223-225.	0.3	11
77	The muscle fatty acid binding protein of spadefoot toad (Scaphiopus couchii). Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2000, 125, 347-357.	0.7	10
78	Identification of a 115kDa MAP-kinase activated by freezing and anoxic stresses in the marine periwinkle, Littorina littorea. Archives of Biochemistry and Biophysics, 2006, 450, 208-214.	1.4	10
79	Tropomyosinâ€binding properties of the CHASM protein are dependent upon its calponin homology domain. FEBS Letters, 2010, 584, 3311-3316.	1.3	10
80	Differential effects of salvinorin A on endotoxin-induced hypermotility and neurogenic ion transport in mouse ileum. Neurogastroenterology and Motility, 2011, 23, 583-e212.	1.6	10
81	Intrinsically Disordered N-Terminus of Calponin Homology-Associated Smooth Muscle Protein (CHASM) Interacts with the Calponin Homology Domain to Enable Tropomyosin Binding. Biochemistry, 2012, 51, 2694-2705.	1.2	10
82	Chemical Modulation of the 1-(Piperidin-4-yl)-1,3-dihydro-2H-benzo[d]imidazole-2-one Scaffold as a Novel NLRP3 Inhibitor. Molecules, 2021, 26, 3975.	1.7	10
83	Extracellular cathepsin Z signals through the Î±5 integrin and augments NLRP3 inflammasome activation. Journal of Biological Chemistry, 2022, 298, 101459.	1.6	10
84	Mapping and functional characterization of the murine Smoothelin-like 1 promoter. BMC Molecular Biology, 2011, 12, 10.	3.0	9
85	Effects of Nitric Oxide and Reactive Oxygen Species on HIF-1a Stabilization FollowingClostridium DifficileToxin Exposure of the Caco-2 Epithelial Cell Line. Cellular Physiology and Biochemistry, 2013, 32, 417-430.	1.1	9
86	Smoothelin-like 1 deletion enhances myogenic reactivity of mesenteric arteries with alterations in PKC and myosin phosphatase signaling. Scientific Reports, 2019, 9, 481.	1.6	9
87	MAPKs represent novel therapeutic targets for gastrointestinal motility disorders. World Journal of Gastrointestinal Pathophysiology, 2011, 2, 19.	0.5	9
88	Reassessment of the cold-labile nature of phosphofructokinase from a hibernating ground squirrel. , 2001, 225, 51-57.		8
89	Identification of the linker histone H1 as a protein kinase CÎµ-binding protein in vascular smooth muscle. Biochemistry and Cell Biology, 2004, 82, 538-546.	0.9	8
90	Temperature and phosphate effects on allosteric phenomena of phosphofructokinase from a hibernating ground squirrel (Spermophilus lateralis). FEBS Journal, 2005, 272, 120-8.	2.2	8

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91	Opportunities to Target Specific Contractile Abnormalities with Smooth Muscle Protein Kinase Inhibitors. Pharmaceuticals, 2010, 3, 1739-1760.	1.7	7
92	Prostate-apoptosis response-4 phosphorylation in vascular smooth muscle. Archives of Biochemistry and Biophysics, 2013, 535, 84-90.	1.4	7
93	Two domains of the smoothelin-like 1 protein bind apo- and calciumâ€“calmodulin independently. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2014, 1844, 1580-1590.	1.1	7
94	Network analysis of TCGA and GTEx gene expression datasets for identification of trait-associated biomarkers in human cancer. STAR Protocols, 2022, 3, 101168.	0.5	6
95	A Potential New Tool for Managing Clostridium difficile Infection. Journal of Infectious Diseases, 2013, 207, 1484-1486.	1.9	5
96	Quantification of Inflammasome Adaptor Protein ASC in Biological Samples by Multiple-Reaction Monitoring Mass Spectrometry. Inflammation, 2018, 41, 1396-1408.	1.7	5
97	Childhood disadvantage and adolescent socioemotional wellbeing as predictors of future parenting behaviour. Journal of Adolescence, 2021, 86, 90-100.	1.2	5
98	Network analysis identifies DAPK3 as a potential biomarker for lymphatic invasion and colon adenocarcinoma prognosis. IScience, 2021, 24, 102831.	1.9	5
99	Quantitation of myosin regulatory light chain phosphorylation in biological samples with multiple reaction monitoring mass spectrometry. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2018, 1866, 608-616.	1.1	4
100	Validation of chemical genetics for the study of zipperâ€interacting protein kinase signaling. Proteins: Structure, Function and Bioinformatics, 2018, 86, 1211-1217.	1.5	4
101	Simultaneous binding of the N- and C-terminal cytoplasmic domains of aquaporin 4 to calmodulin. Biochimica Et Biophysica Acta - Biomembranes, 2022, 1864, 183837.	1.4	4
102	Deathâ€associated protein kinases and intestinal epithelial homeostasis. Anatomical Record, 2023, 306, 1062-1087.	0.8	4
103	Binding of smoothelin-like 1 to tropomyosin and calmodulin is mutually exclusive and regulated by phosphorylation. BMC Biochemistry, 2017, 18, 5.	4.4	3
104	Molecular Network Analyses Implicate Death-Associated Protein Kinase 3 (DAPK3) as a Key Factor in Colitis-Associated Dysplasia Progression. Inflammatory Bowel Diseases, 2022, 28, 1485-1496.	0.9	3
105	Analyzing biological function with emerging proteomic technologies. International Congress Series, 2004, 1275, 14-21.	0.2	2
106	Recent Applications of Functional Proteomics: Investigations in Smooth Muscle Cell Physiology. , 0, , 255-277.		2
107	Purification of Smooth Muscle Myosin Phosphatase Using a Thiophosphorylated Myosin Light-Chain-Affinity Resin. , 2007, 365, 225-234.		1
108	Guest editorial & introduction to the special issue. Archives of Biochemistry and Biophysics, 2011, 510, 73-75.	1.4	1

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109	A tale of two threonines: myosin phosphatase inhibition and calcium sensitization of smooth muscle. Journal of Physiology, 2015, 593, 487-488.	1.3	1
110	Exaggerated IL-15 and Altered Expression of foxp3+ Cell-Derived Cytokines Contribute to Enhanced Colitis in Nlrp3â˜'/â˜' Mice. Mediators of Inflammation, 2016, 2016, 1-12.	1.4	1
111	Analyzing Recombinant Protein Production in Pichia pastoris with Targeted Proteomics. Methods in Molecular Biology, 2019, 1923, 187-209.	0.4	1
112	Tissue-selective alternate promoters guide NLRP6 expression. Life Science Alliance, 2021, 4, e202000897.	1.3	1
113	Mechanisms by which smoothelin-like protein 1 reverses insulin resistance in myotubules and mice. Molecular and Cellular Endocrinology, 2022, 551, 111663.	1.6	1
114	Tools and protocol for quantification of myosin phosphorylation with MRM-MS. MethodsX, 2018, 5, 466-474.	0.7	0
115	Inflammasomes: Intracellular mediators of immune defense. Archives of Biochemistry and Biophysics, 2019, 670, 1-3.	1.4	0
116	Zipperâ€Interacting Protein Kinase: Inferring Function In Smooth Muscle Contractility By Identifying Bona Fide Substrates. FASEB Journal, 2010, 24, 603.10.	0.2	0
117	Two domains of the smoothelinâ€like 1 protein bind apoâ€and calciumâ€calmodulin independently. FASEB Journal, 2013, 27, 1036.2.	0.2	0
118	Smoothelinâ€like 1 knockâ€out is associated with altered CPIâ€17 expression and myogenic tone.. FASEB Journal, 2013, 27, 922.1.	0.2	0
119	Using Chemical Genetics to Define Zipperâ€Interacting Protein Kinase Signalling Events. FASEB Journal, 2013, 27, 835.3.	0.2	0
120	Zipperâ€Interacting protein kinase is a key regulator of vascular smooth muscle tone with implications in development of hypertension (676.18). FASEB Journal, 2014, 28, 676.18.	0.2	0
121	Diastolic Dysfunction is Generated in Mice with Knockout of Smoothelinâ€like 1 Protein. FASEB Journal, 2018, 32, 232.3.	0.2	0