Robert T Dirksen

List of Publications by Year
in descending order

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106 papers	7,092 citations	44066 48 h-index	58576 82 g-index
115 all docs	115 docs citations	115 times ranked	5971 citing authors

#	Article	IF	Citations
1	Superoxide Flashes in Single Mitochondria. Cell, 2008, 134, 279-290.	28.9	643
2	Enhanced dihydropyridine receptor channel activity in the presence of ryanodine receptor. Nature, 1996, 380, 72-75.	27.8	444
3	RyR1 S-Nitrosylation Underlies Environmental Heat Stroke and Sudden Death in Y522S RyR1 Knockin Mice. Cell, 2008, 133, 53-65.	28.9	321
4	Altered mRNA splicing of the skeletal muscle ryanodine receptor and sarcoplasmic/endoplasmic reticulum Ca2+-ATPase in myotonic dystrophy type 1. Human Molecular Genetics, 2005, 14, 2189-2200.	2.9	247
5	Mitochondria Are Linked to Calcium Stores in Striated Muscle by Developmentally Regulated Tethering Structures. Molecular Biology of the Cell, 2009, 20, 1058-1067.	2.1	240
6	Correction of ClC-1 splicing eliminates chloride channelopathy and myotonia in mouse models of myotonic dystrophy. Journal of Clinical Investigation, 2007, 117, 3952-7.	8.2	215
7	Sarcoplasmic reticulum: The dynamic calcium governor of muscle. Muscle and Nerve, 2006, 33, 715-731.	2.2	183
8	Heatâ€•and anesthesiaâ€‐induced malignant hyperthermia in an RyR1 knockâ€‐in mouse. FASEB Journal, 2006, 20, 329-330.	0.5	179
9	Differential dependence of storeâ€•operated and excitationâ€•coupled Ca²⁺ entry in skeletal muscle on STIM1 and Orai1. Journal of Physiology, 2008, 586, 4815-4824.	2.9	149
10	Muscle weakness in myotonic dystrophy associated with misregulated splicing and altered gating of CaV1.1 calcium channel. Human Molecular Genetics, 2012, 21, 1312-1324.	2.9	146
11	Functional Effects of Central Core Disease Mutations in the Cytoplasmic Region of the Skeletal Muscle Ryanodine Receptor. Journal of General Physiology, 2001, 118, 277-290.	1.9	137
12	Orai1-dependent calcium entry promotes skeletal muscle growth and limits fatigue. Nature Communications, 2013, 4, 2805.	12.8	118
13	Checking your SOCCs and feet: the molecular mechanisms of Ca²⁺ entry in skeletal muscle. Journal of Physiology, 2009, 587, 3139-3147.	2.9	117
14	Loss of adult skeletal muscle stem cells drives age-related neuromuscular junction degeneration. ELife, 2017, 6, .	6.0	116
15	Altered Ryanodine Receptor Function in Central Core Disease Leaky or Uncoupled Ca2+ Release Channels?. Trends in Cardiovascular Medicine, 2002, 12, 189-197.	4.9	115
16	Characterization and temporal development of cores in a mouse model of malignant hyperthermia. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21996-22001.	7.1	113
17	Functional analysis of the R1086H malignant hyperthermia mutation in the DHPR reveals an unexpected influence of the III-IV loop on skeletal muscle EC coupling. American Journal of Physiology - Cell Physiology, 2004, 287, C1094-C1102.	4.6	107
18	Functional Impact of the Ryanodine Receptor on the Skeletal Muscle L-Type Ca2+ Channel. Journal of General Physiology, 2000, 115, 467-480.	1.9	104

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19	Role of Mitofusin-2 in mitochondrial localization and calcium uptake in skeletal muscle. Cell Calcium, 2015, 57, 14-24.	2.4	104
20	Inducible depletion of adult skeletal muscle stem cells impairs the regeneration of neuromuscular junctions. ELife, 2015, 4, .	6.0	103
21	Anestheticâ€and heatâ€induced sudden death in calsequestrinâ€1â€knockout mice. FASEB Journal, 2009, 23, 1710-1720.	0.5	99
22	AICAR prevents heat-induced sudden death in RyR1 mutant mice independent of AMPK activation. Nature Medicine, 2012, 18, 244-251.	30.7	99
23	Distinct Effects on Ca2+ Handling Caused by Malignant Hyperthermia and Central Core Disease Mutations in RyR1. Biophysical Journal, 2004, 87, 3193-3204.	0.5	98
24	Muscle Chloride Channel Dysfunction in Two Mouse Models of Myotonic Dystrophy. Journal of General Physiology, 2007, 129, 79-94.	1.9	98
25	Mitochondrial superoxide flashes: metabolic biomarkers of skeletal muscle activity and disease. FASEB Journal, 2011, 25, 3068-3078.	0.5	90
26	Age-dependent uncoupling of mitochondria from Ca2+ release units in skeletal muscle. Oncotarget, 2015, 6, 35358-35371.	1.8	83
27	Muscle weakness in Ryr1I4895T/WT knock-in mice as a result of reduced ryanodine receptor Ca2+ ion permeation and release from the sarcoplasmic reticulum. Journal of General Physiology, 2011, 137, 43-57.	1.9	76
28	An Ryr1 ^{I4895T} mutation abolishes Ca ²⁺ release channel function and delays development in homozygous offspring of a mutant mouse line. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18537-18542.	7.1	74
29	The Pore Region of the Skeletal Muscle Ryanodine Receptor Is a Primary Locus for Excitation-Contraction Uncoupling in Central Core Disease. Journal of General Physiology, 2003, 121, 277-286.	1.9	70
30	Triadin Binding to the C-Terminal Luminal Loop of the Ryanodine Receptor is Important for Skeletal Muscle Excitationâ€“Contraction Coupling. Journal of General Physiology, 2007, 130, 365-378.	1.9	70
31	Role of Calcium Permeation in Dihydropyridine Receptor Function. Journal of General Physiology, 1999, 114, 393-404.	1.9	67
32	Respective Contribution of Mitochondrial Superoxide and pH to Mitochondria-targeted Circularly Permuted Yellow Fluorescent Protein (mt-cpYFP) Flash Activity. Journal of Biological Chemistry, 2013, 288, 10567-10577.	3.4	67
33	Exercise-dependent formation of new junctions that promote STIM1-Orai1 assembly in skeletal muscle. Scientific Reports, 2017, 7, 14286.	3.3	67
34	Role of STIM1/ORAI1-mediated store-operated Ca2+ entry in skeletal muscle physiology and disease. Cell Calcium, 2018, 76, 101-115.	2.4	67
35	Muscle-specific SMN reduction reveals motor neuronâ€“independent disease in spinal muscular atrophy models. Journal of Clinical Investigation, 2020, 130, 1271-1287.	8.2	67
36	Bi-directional coupling between dihydropyridine receptors and ryanodine receptors. Frontiers in Bioscience - Landmark, 2002, 7, d659-670.	3.0	65

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37	Chloride channelopathy in myotonic dystrophy resulting from loss of posttranscriptional regulation for CLCN1. American Journal of Physiology - Cell Physiology, 2007, 292, C1291-C1297.	4.6	65
38	A retrograde signal from RyR1 alters DHP receptor inactivation and limits window Ca ²⁺ release in muscle fibers of Y522S RyR1 knock-in mice. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 4531-4536.	7.1	62
39	FKBP12 Binding to RyR1 Modulates Excitation-Contraction Coupling in Mouse Skeletal Myotubes. Journal of Biological Chemistry, 2003, 278, 22600-22608.	3.4	61
40	Triadopathies: An Emerging Class of Skeletal Muscle Diseases. Neurotherapeutics, 2014, 11, 773-785.	4.4	60
41	Sarcoplasmic Reticulum-Mitochondrial Symbiosis. Exercise and Sport Sciences Reviews, 2009, 37, 29-35.	3.0	57
42	Clinical Pharmacogenetics Implementation Consortium (<scp>CPIC</scp>) Guideline for the Use of Potent Volatile Anesthetic Agents and Succinylcholine in the Context of <scp>RYR</scp>1 or <scp>CACNA</scp>1S Genotypes. Clinical Pharmacology and Therapeutics, 2019, 105, 1338-1344.	4.7	56
43	Sarcoplasmic reticulumâ€“mitochondrial through-space coupling in skeletal muscleThis paper is one of a selection of papers published in this Special Issue, entitled 14th International Biochemistry of Exercise ConferenceÂâ€“ Muscles as Molecular and Metabolic Machines, and has undergone the Journalâ€™s usual peer review process.. Applied Physiology, Nutrition and Metabolism, 2009, 34, 389-395.	1.9	54
44	Mitochondrial Flash: Integrative Reactive Oxygen Species and pH Signals in Cell and Organelle Biology. Antioxidants and Redox Signaling, 2016, 25, 534-549.	5.4	54
45	Alternative splicing of RyR1 alters the efficacy of skeletal EC coupling. Cell Calcium, 2009, 45, 264-274.	2.4	52
46	Enhanced Ca2+ influx from STIM1â€“Orai1 induces muscle pathology in mouse models of muscular dystrophy. Human Molecular Genetics, 2014, 23, 3706-3715.	2.9	52
47	Dynamic alterations in myoplasmic Ca2+ in malignant hyperthermia and central core disease. Biochemical and Biophysical Research Communications, 2004, 322, 1256-1266.	2.1	50
48	Differential impact of mitochondrial positioning on mitochondrial Ca²⁺ uptake and Ca²⁺ spark suppression in skeletal muscle. American Journal of Physiology - Cell Physiology, 2011, 301, C1128-C1139.	4.6	50
49	Orai1 enhances muscle endurance by promoting fatigueâ€resistant type I fiber content but not through acute storeâ€operated Ca²⁺entry. FASEB Journal, 2016, 30, 4109-4119.	0.5	46
50	Variant curation expert panel recommendations for RYR1 pathogenicity classifications in malignant hyperthermia susceptibility. Genetics in Medicine, 2021, 23, 1288-1295.	2.4	46
51	Ryanodine receptor 1-related disorders: an historical perspective and proposal for a unified nomenclature. Skeletal Muscle, 2020, 10, 32.	4.2	45
52	Ca2+ Release through Ryanodine Receptors Regulates Skeletal Muscle L-type Ca2+ Channel Expression. Journal of Biological Chemistry, 2001, 276, 17732-17738.	3.4	43
53	Ca2+ permeation and/or binding to CaV1.1 fine-tunes skeletal muscle Ca2+ signaling to sustain muscle function. Skeletal Muscle, 2015, 5, 4.	4.2	43
54	Congenital myopathy results from misregulation of a muscle Ca ²⁺ channel by mutant Stac3. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E228-E236.	7.1	43

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55	The I4895T mutation in the type 1 ryanodine receptor induces fiberâ€type specific alterations in skeletal muscle that mimic premature aging. Aging Cell, 2010, 9, 958-970.	6.7	42
56	Sarcolemmal-restricted localization of functional ClC-1 channels in mouse skeletal muscle. Journal of General Physiology, 2010, 136, 597-613.	1.9	42
57	Tamoxifen therapy in a murine model of myotubular myopathy. Nature Communications, 2018, 9, 4849.	12.8	41
58	Mitochondrial superoxide flashes: From discovery to new controversies. Journal of General Physiology, 2012, 139, 425-434.	1.9	39
59	Ca2+ Binding/Permeation via Calcium Channel, CaV1.1, Regulates the Intracellular Distribution of the Fatty Acid Transport Protein, CD36, and Fatty Acid Metabolism. Journal of Biological Chemistry, 2015, 290, 23751-23765.	3.4	39
60	Genetic biomarkers for the risk of seizures in long QT syndrome. Neurology, 2016, 87, 1660-1668.	1.1	38
61	Accelerated Activation of SOCE Current in Myotubes from Two Mouse Models of Anesthetic- and Heat-Induced Sudden Death. PLoS ONE, 2013, 8, e77633.	2.5	36
62	Transverse tubule remodeling enhances Orai1-dependent Ca2+ entry in skeletal muscle. ELife, 2019, 8, .	6.0	36
63	Antioxidants Protect Calsequestrin-1 Knockout Mice from Halothane- and Heat-induced Sudden Death. Anesthesiology, 2015, 123, 603-617.	2.5	35
64	Mechanosensitive Gene Regulation by Myocardin-Related Transcription Factors Is Required for Cardiomyocyte Integrity in Load-Induced Ventricular Hypertrophy. Circulation, 2018, 138, 1864-1878.	1.6	34
65	Oxidative stress, mitochondrial damage, and cores in muscle from calsequestrin-1 knockout mice. Skeletal Muscle, 2015, 5, 10.	4.2	33
66	Temperature and RyR1 Regulate the Activation Rate of Store-Operated Ca2+ Entry Current in Myotubes. Biophysical Journal, 2012, 103, 202-211.	0.5	32
67	Pre-assembled Ca2+ entry units and constitutively active Ca2+ entry in skeletal muscle of calsequestrin-1 knockout mice. Journal of General Physiology, 2020, 152, .	1.9	32
68	Iron Dysregulation in Mitochondrial Dysfunction and Alzheimerâ€™s Disease. Antioxidants, 2022, 11, 692.	5.1	30
69	Altered Ca2+ Handling and Oxidative Stress Underlie Mitochondrial Damage and Skeletal Muscle Dysfunction in Aging and Disease. Metabolites, 2021, 11, 424.	2.9	27
70	Two central core disease (CCD) deletions in the C-terminal region of RYR1 alter muscle excitation-contraction (EC) coupling by distinct mechanisms. Human Mutation, 2007, 28, 61-68.	2.5	26
71	Adrenergic Signaling Controls RGK-Dependent Trafficking of Cardiac Voltage-Gated L-Type Ca 2+ Channels Through PKD1. Circulation Research, 2012, 110, 59-70.	4.5	26
72	A variably spliced region in the type 1 ryanodine receptor may participate in an inter-domain interaction. Biochemical Journal, 2007, 401, 317-324.	3.7	25

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73	Cardiac metabolic effects of K_{Na}1.2 channel deletion and evidence for its mitochondrial localization. FASEB Journal, 2018, 32, 6135-6149.	0.5	23
74	Calmodulin Binding to the 3614â€“3643 Region of RyR1 Is Not Essential for Excitationâ€“Contraction Coupling in Skeletal Myotubes. Journal of General Physiology, 2002, 120, 337-347.	1.9	22
75	Characterization of ryanodine receptor type 1 single channel activity using â€œon-nucleusâ€•patch clamp. Cell Calcium, 2014, 56, 96-107.	2.4	22
76	Mouse model of severe recessive RYR1-related myopathy. Human Molecular Genetics, 2019, 28, 3024-3036.	2.9	22
77	Identification of drug modifiers for RYR1-related myopathy using a multi-species discovery pipeline. ELife, 2020, 9, .	6.0	20
78	Defects in Ca²⁺ release associated with local expression of pathological ryanodine receptors in mouse muscle fibres. Journal of Physiology, 2011, 589, 5361-5382.	2.9	19
79	Cheng et al. reply. Nature, 2014, 514, E14-E15.	27.8	19
80	Allele-Specific Gene Silencing in Two Mouse Models of Autosomal Dominant Skeletal Myopathy. PLoS ONE, 2012, 7, e49757.	2.5	17
81	Reduced threshold for store overload-induced Ca2+ release is a common defect of RyR1 mutations associated with malignant hyperthermia and central core disease. Biochemical Journal, 2017, 474, 2749-2761.	3.7	17
82	Risk of cardiac events in Long QT syndrome patients when taking antiseizure medications. Translational Research, 2018, 191, 81-92.e7.	5.0	16
83	Adaptive thermogenesis enhances the life-threatening response to heat in mice with an Ryr1 mutation. Nature Communications, 2020, 11, 5099.	12.8	16
84	Rapamycin and FK506 reduce skeletal muscle voltage sensor expression and function. Cell Calcium, 2005, 38, 35-44.	2.4	14
85	New method for determining total calcium content in tissue applied to skeletal muscle with and without calsequestrin. Journal of General Physiology, 2015, 145, 127-153.	1.9	14
86	Neuronal NTPDase3 Mediates Extracellular ATP Degradation in Trigeminal Nociceptive Pathway. PLoS ONE, 2016, 11, e0164028.	2.5	9
87	Prolonged depolarization promotes fast gating kinetics of Lâ€type Ca 2+ channels in mouse skeletal myotubes. Journal of Physiology, 2000, 529, 647-659.	2.9	8
88	Reactive oxygen/nitrogen species and the aged brain: Radical impact of ion channel function. Neurobiology of Aging, 2002, 23, 837-839.	3.1	8
89	PharmGKB summary: very important pharmacogene information for CACNA1S. Pharmacogenetics and Genomics, 2020, 30, 34-44.	1.5	7
90	Biophysical mechanisms for QRS- and QTc-interval prolongation in mice with cardiac expression of expanded CUG-repeat RNA. Journal of General Physiology, 2020, 152, .	1.9	7

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91	Variants in ASPH cause exertional heat illness and are associated with malignant hyperthermia susceptibility. Nature Communications, 2022, 13, .	12.8	7
92	Ryanodinopathies. Current Topics in Membranes, 2010, 66, 139-167.	0.9	6
93	Regions of ryanodine receptors that influence activation by the dihydropyridine receptor Î²1a subunit. Skeletal Muscle, 2015, 5, 23.	4.2	6
94	Ca2+ Release in Muscle Fibers Expressing R4892W and G4896V Type 1 Ryanodine Receptor Disease Mutants. PLoS ONE, 2013, 8, e54042.	2.5	6
95	Endurance exercise attenuates juvenile irradiation-induced skeletal muscle functional decline and mitochondrial stress. Skeletal Muscle, 2022, 12, 8.	4.2	5
96	Isolating a reverse-mode ATP synthaseâ€“dependent mechanism of mitoflash activation. Journal of General Physiology, 2019, 151, 708-713.	1.9	4
97	Acute exposure to extracellular BTP2 does not inhibit Ca2+ release during EC coupling in intact skeletal muscle fibers. Journal of General Physiology, 2022, 154, .	1.9	4
98	Monovalent Cationic Channel Activity in the Inner Membrane of Nuclei from Skeletal Muscle Fibers. Biophysical Journal, 2014, 107, 2027-2036.	0.5	3
99	Substrate-dependent and cyclophilin D-independent regulation of mitochondrial flashes in skeletal and cardiac muscle. Archives of Biochemistry and Biophysics, 2019, 665, 122-131.	3.0	2
100	Emerging questions about the macromolecular machines of muscle. Journal of General Physiology, 2010, 136, 3-5.	1.9	1
101	Electrical Disturbances in the Brain and Heart in Long QT Syndrome: A Dangerous Synergy. FASEB Journal, 2015, 29, 1042.1.	0.5	1
102	RGK proteins. Channels, 2014, 8, 286-287.	2.8	0
103	Trojan triplets: RNA-based pathomechanisms for muscle dysfunction in Huntingtonâ€™s disease. Journal of General Physiology, 2017, 149, 49-53.	1.9	0
104	Introduction. Archives of Biochemistry and Biophysics, 2019, 669, 31.	3.0	0
105	How mutations in RYR1 that cause malignant hyperthermia increase RYR1 sensitivity to activators. Cell Calcium, 2021, 97, 102412.	2.4	0
106	Exercise attenuates juvenile irradiation-induced skeletal muscle decline by improving calcium handling and decreasing mitochondrial stress. Journal of General Physiology, 2022, 154, .	1.9	0