Shin'ichi Ishiwata

List of Publications by Year
in descending order

110 papers	4,822 citations	101496 36 h-index	102432 66 g-index
110 all docs	110 docs citations	110 times ranked	3953 citing authors

#	Article	IF	Citations
1	Synchrony of sarcomeric movement regulates left ventricular pump function in the in vivo beating mouse heart. Journal of General Physiology, 2021, 153, .	0.9	9
2	Microscopic Temperature Control Reveals Cooperative Regulation of Actinâ€“Myosin Interaction by Drebrin E. Nano Letters, 2021, 21, 9526-9533.	4.5	3
3	Nanoscopic changes in the lattice structure of striated muscle sarcomeres involved in the mechanism of spontaneous oscillatory contraction (SPOC). Scientific Reports, 2020, 10, 16372.	1.6	8
4	Tug-of-war between actomyosin-driven antagonistic forces determines the positioning symmetry in cell-sized confinement. Nature Communications, 2020, 11, 3063.	5.8	30
5	Research exchange with Cris: from fluorescence spectroscopy to human myocardium. Biophysical Reviews, 2020, 12, 773-775.	1.5	2
6	Real-Time In Vivo Imaging of Mouse Left Ventricle Reveals Fluctuating Movements of the Intercalated Discs. Nanomaterials, 2020, 10, 532.	1.9	4
7	Thermal Activation of Thin Filaments in Striated Muscle. Frontiers in Physiology, 2020, 11, 278.	1.3	6
8	On the on-line journal â€œBiophysics and Physicobiology (BPPB)â€. Biophysical Reviews, 2020, 12, 217-219.	1.5	3
9	Single-cell temperature mapping with fluorescent thermometer nanosheets. Journal of General Physiology, 2020, 152, .	0.9	16
10	Functional significance of HCM mutants of tropomyosin, V95A and D175N, studied with <i>in vitro</i> motility assays. Biophysics and Physicobiology, 2019, 16, 28-40.	0.5	6
11	Optimization of Fluorescent Labeling for<i> In Vivo</i> Nanoimaging of Sarcomeres in the Mouse Heart. BioMed Research International, 2018, 2018, 1-8.	0.9	5
12	Processive Nanostepping of Formin mDia1 Loosely Coupled with Actin Polymerization. Nano Letters, 2018, 18, 6617-6624.	4.5	6
13	Sarcomeric Auto-Oscillations in Single Myofibrils From the Heart of Patients With Dilated Cardiomyopathy. Circulation: Heart Failure, 2018, 11, e004333.	1.6	9
14	Estimation of actomyosin active force maintained by tropomyosin and troponin complex under vertical forces in the in vitro motility assay system. PLoS ONE, 2018, 13, e0192558.	1.1	6
15	Spatial confinement of active microtubule networks induces large-scale rotational cytoplasmic flow. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2922-2927.	3.3	63
16	Optical visualisation of thermogenesis in stimulated single-cell brown adipocytes. Scientific Reports, 2017, 7, 1383.	1.6	77
17	Dynamic properties of bio-motile systems with a liquid-crystalline structure. Molecular Crystals and Liquid Crystals, 2017, 647, 127-150.	0.4	6
18	Biphasic Effect of Profilin Impacts the Formin mDia1 Force-Sensing Mechanism in Actin Polymerization. Biophysical Journal, 2017, 113, 461-471.	0.2	37

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19	Radial stiffness characteristics of the overlap regions of sarcomeres in isolated skeletal myofibrils in pre-force generating state. Biophysics and Physicobiology, 2017, 14, 207-220.	0.5	4
20	Mechanical properties of spindle poles are symmetrically balanced. Biophysics and Physicobiology, 2017, 14, 1-11.	0.5	0
21	Simultaneous imaging of local calcium and single sarcomere length in rat neonatal cardiomyocytes using yellow Cameleon-Nano140. Journal of General Physiology, 2016, 148, 341-355.	0.9	19
22	A Beetle Flight Muscle Displays Leg Muscle Microstructure. Biophysical Journal, 2016, 111, 1295-1303.	0.2	11
23	Model simulation of the SPOC wave in a bundle of striated myofibrils. Biophysics and Physicobiology, 2016, 13, 217-226.	0.5	8
24	Direct organelle thermometry with fluorescence lifetime imaging microscopy in single myotubes. Chemical Communications, 2016, 52, 4458-4461.	2.2	44
25	Nano-imaging of the beating mouse heart in vivo: Importance of sarcomere dynamics, as opposed to sarcomere length per se, in the regulation of cardiac function. Journal of General Physiology, 2016, 147, 53-62.	0.9	51
26	Triggering of high-speed neurite outgrowth using an optical microheater. Scientific Reports, 2015, 5, 16611.	1.6	36
27	Oral Dosing of Chemical Indicators for In Vivo Monitoring of Ca2+ Dynamics in Insect Muscle. PLoS ONE, 2015, 10, e0116655.	1.1	4
28	Self-calibrated fluorescent thermometer nanoparticles enable in vivo micro thermography in milimeter scale living animals. , 2015, , .		2
29	Spontaneous oscillatory contraction (SPOC) in cardiomyocytes. Biophysical Reviews, 2015, 7, 15-24.	1.5	16
30	Micro-thermography in millimeter-scale animals by using orally-dosed fluorescent nanoparticle thermosensors. Analyst, The, 2015, 140, 7534-7539.	1.7	25
31	High-frequency sarcomeric auto-oscillations induced by heating in living neonatal cardiomyocytes of the rat. Biochemical and Biophysical Research Communications, 2015, 457, 165-170.	1.0	30
32	Cell-sized spherical confinement induces the spontaneous formation of contractile actomyosin ringsÂinÂvitro. Nature Cell Biology, 2015, 17, 480-489.	4.6	126
33	The 105 gap issue between calculation and measurement in single-cell thermometry. Nature Methods, 2015, 12, 802-803.	9.0	85
34	Microscopic heat pulse-induced calcium dynamics in single WI-38 fibroblasts. Biophysics (Nagoya-shi,) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.4	17
35	Characterization of Olig2 expression during cerebellar development. Gene Expression Patterns, 2014, 15, 1-7.	0.3	22
36	Micromechanics of the Vertebrate Meiotic Spindle Examined by Stretching along the Pole-to-Pole Axis. Biophysical Journal, 2014, 106, 735-740.	0.2	22

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37	Sarcomere length nanometry in rat neonatal cardiomyocytes expressed with Î±-actininâ€“AcGFP in Z discs. Journal of General Physiology, 2014, 143, 513-524.	0.9	45
38	Quantitative Analysis of the Lamellarity of Giant Liposomes Prepared by the Inverted Emulsion Method. Biophysical Journal, 2014, 107, 346-354.	0.2	67
39	Temporal identity transition from Purkinje cell progenitors to GABAergic interneuron progenitors in the cerebellum. Nature Communications, 2014, 5, 3337.	5.8	92
40	A Nanoparticle-Based Ratiometric and Self-Calibrated Fluorescent Thermometer for Single Living Cells. ACS Nano, 2014, 8, 198-206.	7.3	183
41	2P144 High-frequency sarcomeric auto-oscillations in living cardiomyocytes under hyperthermal conditions(10. Muscle,Poster,The 52nd Annual Meeting of the Biophysical Society of Japan(BSJ2014)). Seibutsu Butsuri, 2014, 54, S218.	0.0	0
42	Locally and Globally Coupled Oscillators in Muscle. Physical Review Letters, 2013, 111, 108104.	2.9	28
43	Walking nanothermometers: spatiotemporal temperature measurement of transported acidic organelles in single living cells. Lab on A Chip, 2012, 12, 1591.	3.1	84
44	Quasiperiodic Distribution of Rigor Cross-Bridges Along a Reconstituted Thin Filament in a Skeletal Myofibril. Biophysical Journal, 2011, 101, 2740-2748.	0.2	7
45	Contractile system of muscle as an auto-oscillator. Progress in Biophysics and Molecular Biology, 2011, 105, 187-198.	1.4	41
46	A theory on auto-oscillation and contraction in striated muscle. Progress in Biophysics and Molecular Biology, 2011, 105, 199-207.	1.4	28
47	SPontaneous Oscillatory Contraction (SPOC): auto-oscillations observed in striated muscle at partial activation. Biophysical Reviews, 2011, 3, 53-62.	1.5	10
48	Two-dimensional periodic texture of actin filaments formed upon drying. Biophysics (Nagoya-shi,) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.4	2
49	Key residues on microtubule responsible for activation of kinesin ATPase. EMBO Journal, 2010, 29, 1167-1175.	3.5	52
50	Robust processivity of myosin V under off-axis loads. Nature Chemical Biology, 2010, 6, 300-305.	3.9	23
51	Regulatory mechanism of length-dependent activation in skinned porcine ventricular muscle: role of thin filament cooperative activation in the Frank-Starling relation. Journal of General Physiology, 2010, 136, 469-482.	0.9	28
52	Insights into the mechanisms of myosin and kinesin molecular motors from the single-molecule unbinding force measurements. Journal of the Royal Society Interface, 2010, 7, S295-306.	1.5	9
53	Actin oligomers at the initial stage of polymerization induced by increasing temperature at low ionic strength: Study with small-angle X-ray scattering. Biophysics (Nagoya-shi, Japan), 2010, 6, 1-11.	0.4	7
54	Modulation of the mechano-chemical properties of myosin V by drebrin-E. Biochemical and Biophysical Research Communications, 2010, 400, 643-648.	1.0	11

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55	Regulatory mechanism of smooth muscle contraction studied with gelsolin-treated strips of taenia caeci in guinea pig. American Journal of Physiology - Cell Physiology, 2009, 296, C1024-C1033.	2.1	3
56	D-loop of Actin Differently Regulates the Motor Function of Myosins II and V. Journal of Biological Chemistry, 2009, 284, 35251-35258.	1.6	11
57	Purification of cytoplasmic actin by affinity chromatography using the C-terminal half of gelsolin. Biochemical and Biophysical Research Communications, 2009, 383, 146-150.	1.0	27
58	Mechanical Distortion of Single Actin Filaments Induced by External Force: Detection by Fluorescence Imaging. Biophysical Journal, 2009, 96, 1036-1044.	0.2	37
59	Temperature dependence of the flexural rigidity of single microtubules. Biochemical and Biophysical Research Communications, 2008, 366, 637-642.	1.0	31
60	Load-dependent ADP binding to myosins V and VI: Implications for subunit coordination and function. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 7714-7719.	3.3	91
61	How the Load and the Nucleotide State Affect the Actin Filament Binding Mode of the Molecular Motor Myosin V. Journal of the Korean Physical Society, 2008, 53, 1726-1731.	0.3	3
62	1P140 Correlation between changes in lattice spacing and half-sarcomere length during SPOC studied with high spatial and temporal resolution(Muscle-muscle proteins and contraction,Poster) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 457 Td	0.0	0
63	Regulation of Muscle Contraction by Ca2+ and ADP: Focusing on the0 Auto-Oscillation (SPOC). , 2007, 592, 341-358.		14
64	Microscopic Detection of Thermogenesis in a Single HeLa Cell. Biophysical Journal, 2007, 92, L46-L48.	0.2	149
65	Size Distribution of Linear and Helical Polymers in Actin Solution Analyzed by Photon Counting Histogram. Biophysical Journal, 2007, 92, 2162-2171.	0.2	13
66	Nonlinear Force-Length Relationship in the ADP-Induced Contraction of Skeletal Myofibrils. Biophysical Journal, 2007, 93, 4330-4341.	0.2	33
67	1P310 Mechanical properties of a single microtubule measured by optical tweezers; The effect of kinesin binding(10. Cytoskeleton,Poster Session,Abstract,Meeting Program of EABS & BSJ 2006). Seibutsu Butsuri, 2006, 46, S224.	0.0	0
68	2P476 Model of collective motion of motors in muscle oscillation(50. Non-equilibrium and complex) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	0.0	0
69	Single-molecular analysis of the binding state of myosin V and actin. Journal of Physics: Conference Series, 2006, 31, 239-240.	0.3	0
70	Identification of a strong binding site for kinesin on the microtubule using mutant analysis of tubulin. EMBO Journal, 2006, 25, 5932-5941.	3.5	60
71	Temperature change does not affect force between regulated actin filaments and heavy meromyosin in single-molecule experiments. Journal of Physiology, 2006, 574, 877-887.	1.3	31
72	Processivity of kinesin motility is enhanced on increasing temperature. Biophysics (Nagoya-shi, Japan), 2006, 2, 13-21.	0.4	12

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73	Auto-oscillations of Skinned Myocardium Correlating with Heartbeat. Journal of Muscle Research and Cell Motility, 2005, 26, 93-101.	0.9	31
74	Molecular Synchronization in Actomyosin Motors â€" From Single Molecule to Muscle Fiber Via Nanomuscle. , 2005, 565, 25-36.		3
75	A New Muscle Contractile System Composed of a Thick Filament Lattice and a Single Actin Filament. Biophysical Journal, 2005, 89, 321-328.	0.2	21
76	Mechanochemical coupling of two substeps in a single myosin V motor. Nature Structural and Molecular Biology, 2004, 11, 877-883.	3.6	166
77	The effect of tropomyosin on force and elementary steps of the cross-bridge cycle in reconstituted bovine myocardium. Journal of Physiology, 2004, 556, 637-649.	1.3	28
78	A novel method of thermal activation and temperature measurement in the microscopic region around single living cells. Journal of Neuroscience Methods, 2004, 139, 69-77.	1.3	44
79	Loading direction regulates the affinity of ADP for kinesin. Nature Structural and Molecular Biology, 2003, 10, 308-311.	3.6	108
80	Equilibrium and Transition between Single- and Double-Headed Binding of Kinesin as Revealed by Single-Molecule Mechanics. Biophysical Journal, 2003, 84, 1103-1113.	0.2	48
81	Kinesin-microtubule binding depends on both nucleotide state and loading direction. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5977-5981.	3.3	122
82	Visualization and force measurement of branching by Arp2/3 complex and N-WASP in actin filament. Biochemical and Biophysical Research Communications, 2002, 293, 1550-1555.	1.0	51
83	Elementary Steps of the Cross-Bridge Cycle in Bovine Myocardium with and without Regulatory Proteins. Biophysical Journal, 2002, 82, 915-928.	0.2	50
84	Microscopic analysis of polymerization dynamics with individual actin filaments. Nature Cell Biology, 2002, 4, 666-673.	4.6	349
85	Myosin V is a left-handed spiral motor on the right-handed actin helix. Nature Structural Biology, 2002, 9, 464-467.	9.7	127
86	Nucleotide-Dependent Single- to Double-Headed Binding of Kinesin. Science, 2001, 291, 667-669.	6.0	123
87	Thermal activation of single kinesin molecules with temperature pulse microscopy. Cytoskeleton, 2001, 49, 41-47.	4.4	46
88	Focal Extraction of Surface-Bound DNA from a Microchip Using Photo-Thermal Denaturation. BioTechniques, 2000, 28, 1006-1011.	0.8	28
89	Temperature Dependence of Force, Velocity, and Processivity of Single Kinesin Molecules. Biochemical and Biophysical Research Communications, 2000, 272, 895-899.	1.0	114
90	F1-ATPase: A Rotary Motor Made of a Single Molecule. Cell, 1998, 93, 21-24.	13.5	175

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91	Unbinding force of a single motor molecule of muscle measured using optical tweezers. Nature, 1995, 377, 251-254.	13.7	249
92	Stepwise Motion of an Actin Filament over a Small Number of Heavy Meromyosin Molecules Is Revealed in an In Vitro Motility Assay1. Journal of Biochemistry, 1994, 115, 644-647.	0.9	71
93	Length Regulation of Thin Filaments without Nebulin.. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 1994, 70, 151-156.	1.6	5
94	Right-handed rotation of an actin filament in an in vitro motile system. Nature, 1993, 361, 269-271.	13.7	126
95	Mechano-chemical coupling in spontaneous oscillatory contraction of muscle. Phase Transitions, 1993, 45, 105-136.	0.6	35
96	Super helix formation of actin filaments in an in vitro motile system. BBA - Proteins and Proteomics, 1992, 1159, 94-98.	2.1	40
97	Dynamic light-scattering study of muscle F-actin. II. Biophysical Chemistry, 1987, 27, 211-224.	1.5	3
98	Dynamic light-scattering study on polymerization process of muscle actin. Biophysical Chemistry, 1986, 25, 253-269.	1.5	15
99	Dynamic light scattering study of muscle f-actin. Biophysical Chemistry, 1984, 20, 1-21.	1.5	23
100	Studies on the F-actin Â· tropomyosin Â· troponin complex III. Effects of troponin components and calcium ion on the binding affinity between tropomyosin and F-actin. Biochimica Et Biophysica Acta (BBA) - Protein Structure, 1978, 534, 350-357.	1.7	19
101	Uni-Directional Growth of F-Actin. Journal of Biochemistry, 1976, 79, 159-171.	0.9	129
102	Light-beating study of the effect of Î²-actinin on the interaction between F-actin and heavy meromyosin. Biochimica Et Biophysica Acta (BBA) - Protein Structure, 1974, 336, 445-452.	1.7	4
103	A study on the F-actin-tropomyosin-troponin complex. Biochimica Et Biophysica Acta (BBA) - Protein Structure, 1973, 303, 77-89.	1.7	26
104	F-actin-heavy meromyosin complex studied by optical homodyne and heterodyne methods. Biochimica Et Biophysica Acta - Bioenergetics, 1972, 283, 351-363.	0.5	14
105	Effect of calcium ions on the flexibility of reconstituted thin filaments of muscle studied by quasielastic scattering of laser light. Journal of Molecular Biology, 1972, 68, 511-522.	2.0	137
106	Dynamic study of F-actin by quasielastic scattering of laser light. Journal of Molecular Biology, 1971, 62, 251-265.	2.0	182
107	A Dynamic Study of F-Actin-Tropomyosin Solutions by Quasi-Elastic Light Scattering. Journal of the Physical Society of Japan, 1971, 30, 302-302.	0.7	13
108	Effect of Ca2+ on Dynamic Properties of Muscle Proteins Studied by Quasielastic Light Scattering. Journal of the Physical Society of Japan, 1971, 31, 1601-1601.	0.7	13

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109	Effect of Ca++ on the F-Actin-Tropomyosin-Troponin Complex Studied by Quasi-Elastic Light Scattering. Journal of the Physical Society of Japan, 1971, 30, 303-303.	0.7	15
110	A Dynamic Study of F-Actin-Heavy Meromyosin Solutions by Quasi-Elastic Light Scattering. Journal of the Physical Society of Japan, 1970, 29, 1651-1651.	0.7	19