Laurent Blanchoin

List of Publications by Year
in descending order

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124
papers

12,757
citations

22153
59
h-index

26613
107
g-index

146
all docs

146
docs citations

146
times ranked

9994
citing authors

#	ARTICLE	IF	CITATIONS
1	Autoregulatory control of the stability and plasticity of cytoskeletal networks. Biophysical Journal, 2022, 121, 449a.	0.5	0
2	Structure and dynamics of Odinarchaeota tubulin and the implications for eukaryotic microtubule evolution. Science Advances, 2022, 8, eabm2225.	10.3	13
3	Cytoskeleton regulation: Distinct steps in Arp2/3 complex activation. Current Biology, 2022, 32, R220-R222.	3.9	1
4	Visualization and Quantification of Microtubule Self-Repair. Methods in Molecular Biology, 2022, 2430, 279-289.	0.9	0
5	Reconstituting the Interaction Between Purified Nuclei and Microtubule Network. Methods in Molecular Biology, 2022, 2430, 385-399.	0.9	0
6	Stress fibres are embedded in a contractile cortical network. Nature Materials, 2021, 20, 410-420.	27.5	73
7	Microtubule self-repair. Current Opinion in Cell Biology, 2021, 68, 144-154.	5.4	36
8	Self-repair protects microtubules from destruction by molecular motors. Nature Materials, 2021, 20, 883-891.	27.5	67
9	Acto-myosin network geometry defines centrosome position. Current Biology, 2021, 31, 1206-1220.e5.	3.9	42
10	Kinesin-6 Klp9 orchestrates spindle elongation by regulating microtubule sliding and growth. ELife, 2021, 10, .	6.0	9
11	MICAL2 enhances branched actin network disassembly by oxidizing Arp3B-containing Arp2/3 complexes. Journal of Cell Biology, 2021, 220, .	5.2	34
12	The biochemical composition of the actomyosin network sets the magnitude of cellular traction forces. Molecular Biology of the Cell, 2021, 32, 1737-1748.	2.1	8
13	Hematopoietic progenitors polarize in contact with bone marrow stromal cells in response to SDF1. Journal of Cell Biology, 2021, 220, .	5.2	8
14	A new perspective on microtubule dynamics: destruction by molecular motors and self-repair. Comptes Rendus - Biologies, 2021, 344, 297-310.	0.2	0
15	Force Production by a Bundle of Growing Actin Filaments Is Limited by Its Mechanical Properties. Biophysical Journal, 2020, 118, 182-192.	0.5	11
16	Tailoring cryo-electron microscopy grids by photo-micropatterning for in-cell structural studies. Nature Methods, 2020, 17, 50-54.	19.0	67
17	CLASP Mediates Microtubule Repair by Restricting Lattice Damage and Regulating Tubulin Incorporation. Current Biology, 2020, 30, 2175-2183.e6.	3.9	50
18	Insights into the evolution of regulated actin dynamics via characterization of primitive gelsolin/cofilin proteins from Asgard archaea. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19904-19913.	7.1	38

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19	Microtubules control nuclear shape and gene expression during early stages of hematopoietic differentiation. EMBO Journal, 2020, 39, e103957.	7.8	42
20	Loss of Ena/VASP interferes with lamellipodium architecture, motility and integrin-dependent adhesion. ELife, 2020, 9, .	6.0	76
21	Dynamic stability of the actin ecosystem. Journal of Cell Science, 2019, 132, .	2.0	28
22	Active cargo positioning in antiparallel transport networks. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14835-14842.	7.1	5
23	Lattice defects induce microtubule self-renewal. Nature Physics, 2019, 15, 830-838.	16.7	79
24	Local actin nucleation tunes centrosomal microtubule nucleation during passage throughÂmitosis. EMBO Journal, 2019, 38, .	7.8	48
25	Actin filaments regulate microtubule growth at theÂcentrosome. EMBO Journal, 2019, 38, .	7.8	82
26	Spatial integration of mechanical forces by Î±-actinin establishes actin network symmetry. Journal of Cell Science, 2019, 132, .	2.0	25
27	Quantitative regulation of the dynamic steady state of actin networks. ELife, 2019, 8, .	6.0	16
28	Opening remarks from the Editors. Biophysical Reviews, 2018, 10, 1479-1480.	3.2	0
29	A key function for microtubule-associated-protein 6 in activity-dependent stabilisation of actin filaments in dendritic spines. Nature Communications, 2018, 9, 3775.	12.8	30
30	Actin-Network Architecture Regulates Microtubule Dynamics. Current Biology, 2018, 28, 2647-2656.e4.	3.9	82
31	Network heterogeneity regulates steering in actin-based motility. Nature Communications, 2017, 8, 655.	12.8	30
32	Adaptive Actin Networks. Developmental Cell, 2017, 42, 565-566.	7.0	3
33	Adaptive Response of Actin Bundles under Mechanical Stress. Biophysical Journal, 2017, 113, 1072-1079.	0.5	27
34	Actin Filament Strain Promotes Severing and Cofilin Dissociation. Biophysical Journal, 2017, 112, 2624-2633.	0.5	49
35	Dissipation of contractile forces: the missing piece in cell mechanics. Molecular Biology of the Cell, 2017, 28, 1825-1832.	2.1	28
36	Actin assembly: never forget rate constants. Nature Reviews Molecular Cell Biology, 2016, 17, 536-536.	37.0	1

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37	Centrosome centering and decentering by microtubule network rearrangement. Molecular Biology of the Cell, 2016, 27, 2833-2843.	2.1	70
38	Self-repair promotes microtubule rescue. Nature Cell Biology, 2016, 18, 1054-1064.	10.3	153
39	Actin nucleation at the centrosome controls lymphocyte polarity. Nature Communications, 2016, 7, 10969.	12.8	109
40	The centrosome is an actin-organizing centre. Nature Cell Biology, 2016, 18, 65-75.	10.3	206
41	Profilin-Dependent Nucleation and Assembly of Actin Filaments Controls Cell Elongation in Arabidopsis. Plant Physiology, 2016, 170, 220-233.	4.8	51
42	Architecture and Connectivity Govern Actin Network Contractility. Current Biology, 2016, 26, 616-626.	3.9	221
43	Tau co-organizes dynamic microtubule and actin networks. Scientific Reports, 2015, 5, 9964.	3.3	149
44	Dynamic reorganization of the actin cytoskeleton. F1000Research, 2015, 4, 940.	1.6	35
45	Geometrical and Mechanical Properties Control Actin Filament Organization. PLoS Computational Biology, 2015, 11, e1004245.	3.2	30
46	Architecture Dependence of Actin Filament Network Disassembly. Current Biology, 2015, 25, 1437-1447.	3.9	104
47	Mechanical Heterogeneity Favors Fragmentation of Strained Actin Filaments. Biophysical Journal, 2015, 108, 2270-2281.	0.5	48
48	Microtubules self-repair in response to mechanical stress. Nature Materials, 2015, 14, 1156-1163.	27.5	244
49	Signaling to Actin Stochastic Dynamics. Annual Review of Plant Biology, 2015, 66, 415-440.	18.7	77
50	Design of a 2D no-flow chamber to monitor hematopoietic stem cells. Lab on A Chip, 2015, 15, 77-85.	6.0	20
51	Directed Actin Assembly and Motility. Methods in Enzymology, 2014, 540, 283-300.	1.0	7
52	Fast high-resolution 3D total internal reflection fluorescence microscopy by incidence angle scanning and azimuthal averaging. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 17164-17169.	7.1	79
53	The availability of filament ends modulates actin stochastic dynamics in live plant cells. Molecular Biology of the Cell, 2014, 25, 1263-1275.	2.1	26
54	Actin Dynamics, Architecture, and Mechanics in Cell Motility. Physiological Reviews, 2014, 94, 235-263.	28.8	1,109

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55	Geometrical Control of Actin Assembly and Contractility. Methods in Cell Biology, 2014, 120, 19-38.	1.1	13
56	Laurent Blanchoin. Current Biology, 2014, 24, R674-R675.	3.9	0
57	INF2-Mediated Severing through Actin Filament Encirclement and Disruption. Current Biology, 2014, 24, 156-164.	3.9	48
58	Inhibitory signalling to the Arp2/3 complex steers cell migration. Nature, 2013, 503, 281-284.	27.8	208
59	Actin dynamics in the cortical array of plant cells. Current Opinion in Plant Biology, 2013, 16, 678-687.	7.1	65
60	Fabrication of three-dimensional electrical connections by means of directed actin self-organization. Nature Materials, 2013, 12, 416-421.	27.5	55
61	Actin polymerization or myosin contraction: two ways to build up cortical tension for symmetry breaking. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20130005.	4.0	73
62	Capping Protein Modulates the Dynamic Behavior of Actin Filaments in Response to Phosphatidic Acid in <i>Arabidopsis</i> Â Â. Plant Cell, 2012, 24, 3742-3754.	6.6	96
63	Arabidopsis capping protein senses cellular phosphatidic acid levels and transduces these into changes in actin cytoskeleton dynamics. Plant Signaling and Behavior, 2012, 7, 1727-1730.	2.4	8
64	Reprogramming cell shape with laser nano-patterning. Journal of Cell Science, 2012, 125, 2134-40.	2.0	66
65	How actin network dynamics control the onset of actin-based motility. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 14440-14445.	7.1	42
66	Confinement induces actin flow in a meiotic cytoplasm. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 11705-11710.	7.1	50
67	Actin Cytoskeleton: A Team Effort during Actin Assembly. Current Biology, 2012, 22, R643-R645.	3.9	19
68	Directed cytoskeleton self-organization. Trends in Cell Biology, 2012, 22, 671-682.	7.9	111
69	Actin Network Architecture Can Determine Myosin Motor Activity. Science, 2012, 336, 1310-1314.	12.6	281
70	Cofilin-Linked Changes in Actin Filament Flexibility Promote Severing. Biophysical Journal, 2011, 101, 151-159.	0.5	131
71	Stress Accumulation Originating from Mechanical Asymmetry Promotes Actin Filament Severing at Boundaries of Bare and Cofilin-Decorated Segments. Biophysical Journal, 2011, 100, 300a.	0.5	0
72	The Myosin Passenger Protein Smy1 Controls Actin Cable Structure and Dynamics by Acting as a Formin Damper. Developmental Cell, 2011, 21, 217-230.	7.0	57

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73	<i>Arabidopsis</i> Actin Depolymerizing Factor4 Modulates the Stochastic Dynamic Behavior of Actin Filaments in the Cortical Array of Epidermal Cells Â. Plant Cell, 2011, 23, 3711-3726.	6.6	106
74	The Formin DAD Domain Plays Dual Roles in Autoinhibition and Actin Nucleation. Current Biology, 2011, 21, 384-390.	3.9	101
75	Cofilin Tunes the Nucleotide State of Actin Filaments and Severs at Bare and Decorated Segment Boundaries. Current Biology, 2011, 21, 862-868.	3.9	192
76	Turnover of branched actin filament networks by stochastic fragmentation with ADF/cofilin. Molecular Biology of the Cell, 2011, 22, 2541-2550.	2.1	50
77	<i>Arabidopsis</i>VILLIN1 and VILLIN3 Have Overlapping and Distinct Activities in Actin Bundle Formation and Turnover. Plant Cell, 2010, 22, 2727-2748.	6.6	91
78	Actin dynamics in plant cells: a team effort from multiple proteins orchestrates this very fast-paced game. Current Opinion in Plant Biology, 2010, 13, 714-723.	7.1	80
79	A â€œPrimerâ€•Based Mechanism Underlies Branched Actin Filament Network Formation and Motility. Current Biology, 2010, 20, 423-428.	3.9	117
80	Plant formins: Diverse isoforms and unique molecular mechanism. Biochimica Et Biophysica Acta - Molecular Cell Research, 2010, 1803, 201-206.	4.1	87
81	Nucleation geometry governs ordered actin networks structures. Nature Materials, 2010, 9, 827-832.	27.5	117
82	Regulation of actin dynamics by actin-binding proteins in pollen. Journal of Experimental Botany, 2010, 61, 1969-1986.	4.8	144
83	<i>Arabidopsis</i>VILLIN5, an Actin Filament Bundling and Severing Protein, Is Necessary for Normal Pollen Tube Growth. Plant Cell, 2010, 22, 2749-2767.	6.6	138
84	Cell-penetrating Peptides with Intracellular Actin-remodeling Activity in Malignant Fibroblasts. Journal of Biological Chemistry, 2010, 285, 7712-7721.	3.4	31
85	Origin of Twist-Bend Coupling in Actin Filaments. Biophysical Journal, 2010, 99, 1852-1860.	0.5	72
86	Actin filament dynamics are dominated by rapid growth and severing activity in the <i>Arabidopsis</i> cortical array. Journal of Cell Biology, 2009, 184, 269-280.	5.2	219
87	Inhibitors Target Actin Nucleators. Chemistry and Biology, 2009, 16, 1125-1126.	6.0	5
88	Structural basis for the phototoxicity of the fluorescent protein KillerRed. FEBS Letters, 2009, 583, 2839-2842.	2.8	97
89	Coronin Switches Roles in Actin Disassembly Depending on the Nucleotide State of Actin. Molecular Cell, 2009, 34, 364-374.	9.7	124
90	Rapid formin-mediated actin-filament elongation is essential for polarized plant cell growth. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 13341-13346.	7.1	158

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91	Reverse pH-Dependence of Chromophore Protonation Explains the Large Stokes Shift of the Red Fluorescent Protein mKeima. Journal of the American Chemical Society, 2009, 131, 10356-10357.	13.7	91
92	Stochastic Severing of Actin Filaments by Actin Depolymerizing Factor/Cofilin Controls the Emergence of a Steady Dynamical Regime. Biophysical Journal, 2008, 94, 2082-2094.	0.5	62
93	Cofilin Increases the Bending Flexibility of Actin Filaments: Implications for Severing and Cell Mechanics. Journal of Molecular Biology, 2008, 381, 550-558.	4.2	200
94	Identification of Arabidopsis Cyclase-associated Protein 1 as the First Nucleotide Exchange Factor for Plant Actin. Molecular Biology of the Cell, 2007, 18, 3002-3014.	2.1	74
95	Attachment Conditions Control Actin Filament Buckling and the Production of Forces. Biophysical Journal, 2007, 92, 2546-2558.	0.5	47
96	Actin-Filament Stochastic Dynamics Mediated by ADF/Cofilin. Current Biology, 2007, 17, 825-833.	3.9	151
97	Structural and biochemical characterization of a human adenovirus 2/12 penton base chimera. FEBS Journal, 2006, 273, 4336-4345.	4.7	16
98	A Novel Mechanism for the Formation of Actin-Filament Bundles by a Nonprocessive Formin. Current Biology, 2006, 16, 1924-1930.	3.9	97
99	Actin dynamics: old friends with new stories. Current Opinion in Plant Biology, 2006, 9, 554-562.	7.1	180
100	Phosphorylation of Microtubule-associated Protein STOP by Calmodulin Kinase II. Journal of Biological Chemistry, 2006, 281, 19561-19569.	3.4	47
101	Plant formin AtFH5 is an evolutionarily conserved actin nucleator involved in cytokinesis. Nature Cell Biology, 2005, 7, 374-380.	10.3	167
102	The Formin Homology 1 Domain Modulates the Actin Nucleation and Bundling Activity of Arabidopsis FORMIN1. Plant Cell, 2005, 17, 2296-2313.	6.6	169
103	Arabidopsis VILLIN1 Generates Actin Filament Cables That Are Resistant to Depolymerization. Plant Cell, 2005, 17, 486-501.	6.6	131
104	A Gelsolin-like Protein from Papaver rhoeas Pollen (PrABP80) Stimulates Calcium-regulated Severing and Depolymerization of Actin Filaments. Journal of Biological Chemistry, 2004, 279, 23364-23375.	3.4	103
105	Interactions of tobacco microtubule-associated protein MAP65-1b with microtubules. Plant Journal, 2004, 39, 126-134.	5.7	64
106	Structural basis of actin sequestration by thymosin-Î²4: implications for WH2 proteins. EMBO Journal, 2004, 23, 3599-3608.	7.8	111
107	Phosphorylation of the WASP-VCA Domain Increases Its Affinity for the Arp2/3 Complex and Enhances Actin Polymerization by WASP. Molecular Cell, 2003, 11, 1229-1239.	9.7	126
108	The Putative Arabidopsis Arp2/3 Complex Controls Leaf Cell Morphogenesis. Plant Physiology, 2003, 132, 2034-2044.	4.8	183

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109	Arabidopsis Capping Protein (AtCP) Is a Heterodimer That Regulates Assembly at the Barbed Ends of Actin Filaments. Journal of Biological Chemistry, 2003, 278, 44832-44842.	3.4	93
110	Xenopus Actin-interacting Protein 1 (XAip1) Enhances Cofilin Fragmentation of Filaments by Capping Filament Ends. Journal of Biological Chemistry, 2002, 277, 43011-43016.	3.4	93
111	Hydrolysis of ATP by Polymerized Actin Depends on the Bound Divalent Cation but Not Profilin. Biochemistry, 2002, 41, 597-602.	2.5	161
112	Actin polymerization processes in plant cells. Current Opinion in Plant Biology, 2002, 5, 502-506.	7.1	49
113	Kinetic mechanism of end-to-end annealing of actin filaments 1 1Edited by M. F. Moody. Journal of Molecular Biology, 2001, 312, 721-730.	4.2	83
114	Inhibition of the Arp2/3 complex-nucleated actin polymerization and branch formation by tropomyosin. Current Biology, 2001, 11, 1300-1304.	3.9	205
115	Direct observation of dendritic actin filament networks nucleated by Arp2/3 complex and WASP/Scar proteins. Nature, 2000, 404, 1007-1011.	27.8	502
116	Interactions of ADF/cofilin, Arp2/3 complex, capping protein and profilin in remodeling of branched actin filament networks. Current Biology, 2000, 10, 1273-1282.	3.9	254
117	Molecular Mechanisms Controlling Actin Filament Dynamics in Nonmuscle Cells. Annual Review of Biophysics and Biomolecular Structure, 2000, 29, 545-576.	18.3	1,319
118	Phosphorylation of Acanthamoeba actophorin (ADF/cofilin) blocks interaction with actin without a change in atomic structure. Journal of Molecular Biology, 2000, 295, 203-211.	4.2	71
119	Mechanism of Interaction of Acanthamoeba Actophorin (ADF/Cofilin) with Actin Filaments. Journal of Biological Chemistry, 1999, 274, 15538-15546.	3.4	280
120	Influence of the C Terminus of Wiskott-Aldrich Syndrome Protein (WASp) and the Arp2/3 Complex on Actin Polymerizationâ€. Biochemistry, 1999, 38, 15212-15222.	2.5	256
121	Interaction of Actin Monomers with AcanthamoebaActophorin (ADF/Cofilin) and Profilin. Journal of Biological Chemistry, 1998, 273, 25106-25111.	3.4	155
122	Kinetics of Association of Myosin Subfragment-1 to Unlabeled and Pyrenyl-labeled Actin. Journal of Biological Chemistry, 1996, 271, 12380-12386.	3.4	22
123	Kinetics of the Interaction of Myosin Subfragment-1 with G-Actin. Journal of Biological Chemistry, 1995, 270, 7125-7133.	3.4	15
124	Interaction of G-actin with thymosin ?4 and its variants thymosin ?9 and thymosin ? 9 met. Journal of Muscle Research and Cell Motility, 1994, 15, 278-86.	2.0	48