

Pekka Lappalainen

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133
papers

11,616
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h-index

107
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157
ext. papers

13,207
ext. citations

9.1
avg, IF

6.47
L-index

#	Paper	IF	Citations
133	Filopodia: molecular architecture and cellular functions. <i>Nature Reviews Molecular Cell Biology</i> , 2008 , 9, 446-54	48.7	1184
132	Stress fibers are generated by two distinct actin assembly mechanisms in motile cells. <i>Journal of Cell Biology</i> , 2006 , 173, 383-94	7.3	667
131	Actin stress fibers--assembly, dynamics and biological roles. <i>Journal of Cell Science</i> , 2012 , 125, 1855-64	5.3	531
130	Cofilin promotes rapid actin filament turnover in vivo. <i>Nature</i> , 1997 , 388, 78-82	50.4	374
129	Regulation of the actin cytoskeleton-plasma membrane interplay by phosphoinositides. <i>Physiological Reviews</i> , 2010 , 90, 259-89	47.9	362
128	Actin-depolymerizing factor and cofilin-1 play overlapping roles in promoting rapid F-actin depolymerization in mammalian nonmuscle cells. <i>Molecular Biology of the Cell</i> , 2005 , 16, 649-64	3.5	310
127	Missing-in-metastasis and IRSp53 deform PI(4,5)P2-rich membranes by an inverse BAR domain-like mechanism. <i>Journal of Cell Biology</i> , 2007 , 176, 953-64	7.3	295
126	Defining mechanisms of actin polymerization and depolymerization during dendritic spine morphogenesis. <i>Journal of Cell Biology</i> , 2009 , 185, 323-39	7.3	260
125	Molecular mechanisms of membrane deformation by I-BAR domain proteins. <i>Current Biology</i> , 2009 , 19, 95-107	6.3	229
124	Essential functions and actin-binding surfaces of yeast cofilin revealed by systematic mutagenesis. <i>EMBO Journal</i> , 1997 , 16, 5520-30	13	211
123	Regulation of cytoskeletal dynamics by actin-monomer-binding proteins. <i>Trends in Cell Biology</i> , 2004 , 14, 386-94	18.3	196
122	A molecular pathway for myosin II recruitment to stress fibers. <i>Current Biology</i> , 2011 , 21, 539-50	6.3	189
121	The three mouse actin-depolymerizing factor/cofilins evolved to fulfill cell-type-specific requirements for actin dynamics. <i>Molecular Biology of the Cell</i> , 2002 , 13, 183-94	3.5	186
120	IRSp53: crossing the road of membrane and actin dynamics in the formation of membrane protrusions. <i>Trends in Cell Biology</i> , 2008 , 18, 52-60	18.3	185
119	Leiomodin is an actin filament nucleator in muscle cells. <i>Science</i> , 2008 , 320, 239-43	33.3	180
118	Aip1p interacts with cofilin to disassemble actin filaments. <i>Journal of Cell Biology</i> , 1999 , 145, 1251-64	7.3	180
117	Crystal structure of the membrane-exposed domain from a respiratory quinol oxidase complex with an engineered dinuclear copper center. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1995 , 92, 11955-9	11.5	178

116	The ADF homology (ADF-H) domain: a highly exploited actin-binding module. <i>Molecular Biology of the Cell</i> , 1998 , 9, 1951-9	3.5	171
115	WH2 domain: a small, versatile adapter for actin monomers. <i>FEBS Letters</i> , 2002 , 513, 92-7	3.8	166
114	The Electronic Structure of CuA: A Novel Mixed-Valence Dinuclear Copper Electron-Transfer Center. <i>Journal of the American Chemical Society</i> , 1996 , 118, 11501-11514	16.4	160
113	Tropomyosin - master regulator of actin filament function in the cytoskeleton. <i>Journal of Cell Science</i> , 2015 , 128, 2965-74	5.3	159
112	Mechanisms of actin stress fibre assembly. <i>Journal of Microscopy</i> , 2008 , 231, 446-54	1.9	159
111	Cyclase-associated protein 1 (CAP1) promotes cofilin-induced actin dynamics in mammalian nonmuscle cells. <i>Molecular Biology of the Cell</i> , 2004 , 15, 2324-34	3.5	159
110	Interactions with PIP2, ADP-actin monomers, and capping protein regulate the activity and localization of yeast twinfilin. <i>Journal of Cell Biology</i> , 2001 , 155, 251-60	7.3	132
109	Structure of the actin-depolymerizing factor homology domain in complex with actin. <i>Journal of Cell Biology</i> , 2008 , 182, 51-9	7.3	130
108	I-BAR domain proteins: linking actin and plasma membrane dynamics. <i>Current Opinion in Cell Biology</i> , 2011 , 23, 14-21	9	129
107	Mouse MIM, a tissue-specific regulator of cytoskeletal dynamics, interacts with ATP-actin monomers through its C-terminal WH2 domain. <i>Journal of Biological Chemistry</i> , 2003 , 278, 8452-9	5.4	127
106	IRSp53 senses negative membrane curvature and phase separates along membrane tubules. <i>Nature Communications</i> , 2015 , 6, 8529	17.4	124
105	Myotilin, the limb-girdle muscular dystrophy 1A (LGMD1A) protein, cross-links actin filaments and controls sarcomere assembly. <i>Human Molecular Genetics</i> , 2003 , 12, 189-203	5.6	124
104	Attenuation of microRNA-1 derepresses the cytoskeleton regulatory protein twinfilin-1 to provoke cardiac hypertrophy. <i>Journal of Cell Science</i> , 2010 , 123, 2444-52	5.3	120
103	Actin-depolymerizing factor homology domain: a conserved fold performing diverse roles in cytoskeletal dynamics. <i>Cytoskeleton</i> , 2011 , 68, 471-90	2.4	106
102	Bidirectional Interplay between Vimentin Intermediate Filaments and Contractile Actin Stress Fibers. <i>Cell Reports</i> , 2015 , 11, 1511-8	10.6	102
101	ADF/Cofilin Accelerates Actin Dynamics by Severing Filaments and Promoting Their Depolymerization at Both Ends. <i>Current Biology</i> , 2017 , 27, 1956-1967.e7	6.3	100
100	Regulation of the cortical actin cytoskeleton in budding yeast by twinfilin, a ubiquitous actin monomer-sequestering protein. <i>Journal of Cell Biology</i> , 1998 , 142, 723-33	7.3	98
99	Membrane-sculpting BAR domains generate stable lipid microdomains. <i>Cell Reports</i> , 2013 , 4, 1213-23	10.6	97

98	Vimentin intermediate filaments control actin stress fiber assembly through GEF-H1 and RhoA. <i>Journal of Cell Science</i> , 2017 , 130, 892-902	5.3	91
97	Tropomyosin Isoforms Specify Functionally Distinct Actin Filament Populations In Vitro. <i>Current Biology</i> , 2017 , 27, 705-713	6.3	91
96	Generation of contractile actomyosin bundles depends on mechanosensitive actin filament assembly and disassembly. <i>ELife</i> , 2015 , 4, e06126	8.9	90
95	A high-affinity interaction with ADP-actin monomers underlies the mechanism and in vivo function of Srv2/cyclase-associated protein. <i>Molecular Biology of the Cell</i> , 2004 , 15, 5158-71	3.5	87
94	Contractility-dependent actin dynamics in cardiomyocyte sarcomeres. <i>Journal of Cell Science</i> , 2009 , 122, 2119-26	5.3	85
93	GMF is a cofilin homolog that binds Arp2/3 complex to stimulate filament debranching and inhibit actin nucleation. <i>Current Biology</i> , 2010 , 20, 861-7	6.3	82
92	Mammalian twinfilin sequesters ADP-G-actin and caps filament barbed ends: implications in motility. <i>EMBO Journal</i> , 2006 , 25, 1184-95	13	77
91	Electron transfer between cytochrome c and the isolated CuA domain: identification of substrate-binding residues in cytochrome c oxidase. <i>Biochemistry</i> , 1995 , 34, 5824-30	3.2	74
90	Detection of mosquito saliva-specific IgE and IgG4 antibodies by immunoblotting. <i>Journal of Allergy and Clinical Immunology</i> , 1994 , 93, 551-5	11.5	74
89	LDL cholesterol recycles to the plasma membrane via a Rab8a-Myosin5b-actin-dependent membrane transport route. <i>Developmental Cell</i> , 2013 , 27, 249-62	10.2	73
88	A simple guide to biochemical approaches for analyzing protein-lipid interactions. <i>Molecular Biology of the Cell</i> , 2012 , 23, 2823-30	3.5	73
87	Mouse A6/twinfilin is an actin monomer-binding protein that localizes to the regions of rapid actin dynamics. <i>Molecular and Cellular Biology</i> , 2000 , 20, 1772-83	4.8	72
86	Segregation of a missense variant in enteric smooth muscle actin $\beta 2$ with autosomal dominant familial visceral myopathy. <i>Gastroenterology</i> , 2012 , 143, 1482-1491.e3	13.3	71
85	Identification of yeast cofilin residues specific for actin monomer and PIP2 binding. <i>Biochemistry</i> , 2001 , 40, 15562-9	3.2	71
84	The two ADF-H domains of twinfilin play functionally distinct roles in interactions with actin monomers. <i>Molecular Biology of the Cell</i> , 2002 , 13, 3811-21	3.5	68
83	Pinkbar is an epithelial-specific BAR domain protein that generates planar membrane structures. <i>Nature Structural and Molecular Biology</i> , 2011 , 18, 902-7	17.6	67
82	Twinfilin, a molecular mailman for actin monomers. <i>Journal of Cell Science</i> , 2002 , 115, 881-886	5.3	66
81	Tropomyosin isoform expression regulates the transition of adhesions to determine cell speed and direction. <i>Molecular and Cellular Biology</i> , 2009 , 29, 1506-14	4.8	63

80	Mammals have two twinfilin isoforms whose subcellular localizations and tissue distributions are differentially regulated. <i>Journal of Biological Chemistry</i> , 2003 , 278, 34347-55	5.4	62
79	Mechanistic principles underlying regulation of the actin cytoskeleton by phosphoinositides. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E8977-E8986	11.5	60
78	Biological role and structural mechanism of twinfilin-capping protein interaction. <i>EMBO Journal</i> , 2004 , 23, 3010-9	13	60
77	Spectroscopic and mutagenesis studies on the CuA centre from the cytochrome-c oxidase complex of <i>Paracoccus denitrificans</i> . <i>FEBS Journal</i> , 1995 , 232, 294-303		60
76	ADF/cofilin binds phosphoinositides in a multivalent manner to act as a PIP(2)-density sensor. <i>Biophysical Journal</i> , 2010 , 98, 2327-36	2.9	59
75	Missing-in-metastasis MIM/MTSS1 promotes actin assembly at intercellular junctions and is required for integrity of kidney epithelia. <i>Journal of Cell Science</i> , 2011 , 124, 1245-55	5.3	59
74	Structural basis and evolutionary origin of actin filament capping by twinfilin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 3113-8	11.5	59
73	Twinfilin, a molecular mailman for actin monomers. <i>Journal of Cell Science</i> , 2002 , 115, 881-6	5.3	58
72	Phospholipids regulate localization and activity of mDia1 formin. <i>European Journal of Cell Biology</i> , 2010 , 89, 723-32	6.1	56
71	Formins regulate actin filament flexibility through long range allosteric interactions. <i>Journal of Biological Chemistry</i> , 2006 , 281, 10727-36	5.4	55
70	Identification and Description of Copper-Thiolate Vibrations in the Dinuclear CuA Site of Cytochrome c Oxidase. <i>Journal of the American Chemical Society</i> , 1996 , 118, 10436-10445	16.4	55
69	Twinfilin is required for actin-dependent developmental processes in <i>Drosophila</i> . <i>Journal of Cell Biology</i> , 2001 , 155, 787-96	7.3	54
68	Reconstitution and dissection of the 600-kDa Srv2/CAP complex: roles for oligomerization and cofilin-actin binding in driving actin turnover. <i>Journal of Biological Chemistry</i> , 2009 , 284, 10923-34	5.4	53
67	MIM-Induced Membrane Bending Promotes Dendritic Spine Initiation. <i>Developmental Cell</i> , 2015 , 33, 644-652	15.2	52
66	Mechanism and biological role of profilin-Srv2/CAP interaction. <i>Journal of Cell Science</i> , 2007 , 120, 1225-34	3.3	51
65	Regulation of actin dynamics by PI(4,5)P in cell migration and endocytosis. <i>Current Opinion in Cell Biology</i> , 2019 , 56, 7-13	9	48
64	Direct interaction of actin filaments with F-BAR protein pacsin2. <i>EMBO Reports</i> , 2014 , 15, 1154-62	6.5	47
63	cAMP signaling by anthrax edema toxin induces transendothelial cell tunnels, which are resealed by MIM via Arp2/3-driven actin polymerization. <i>Cell Host and Microbe</i> , 2011 , 10, 464-74	23.4	47

62	MyosinVIIa interacts with Twinfilin-2 at the tips of mechanosensory stereocilia in the inner ear. <i>PLoS ONE</i> , 2009 , 4, e7097	3.7	47
61	Far-Red Resonance Raman Study of Copper A in Subunit II of Cytochrome c Oxidase. <i>Journal of the American Chemical Society</i> , 1996 , 118, 3986-3987	16.4	46
60	Cofilin-2 controls actin filament length in muscle sarcomeres. <i>Developmental Cell</i> , 2014 , 31, 215-26	10.2	44
59	Mammalian and malaria parasite cyclase-associated proteins catalyze nucleotide exchange on G-actin through a conserved mechanism. <i>Journal of Biological Chemistry</i> , 2013 , 288, 984-94	5.4	44
58	ABBA regulates plasma-membrane and actin dynamics to promote radial glia extension. <i>Journal of Cell Science</i> , 2008 , 121, 1444-54	5.3	44
57	MTSS1 is a metastasis driver in a subset of human melanomas. <i>Nature Communications</i> , 2014 , 5, 3465	17.4	43
56	Structural conservation between the actin monomer-binding sites of twinfilin and actin-depolymerizing factor (ADF)/cofilin. <i>Journal of Biological Chemistry</i> , 2002 , 277, 43089-95	5.4	41
55	Mechanism of synergistic actin filament pointed end depolymerization by cyclase-associated protein and cofilin. <i>Nature Communications</i> , 2019 , 10, 5320	17.4	41
54	Endogenous plasma membrane t-SNARE syntaxin 4 is present in rab11 positive endosomal membranes and associates with cortical actin cytoskeleton. <i>FEBS Letters</i> , 2002 , 531, 513-9	3.8	38
53	Different localizations and cellular behaviors of leiomodulin and tropomodulin in mature cardiomyocyte sarcomeres. <i>Molecular Biology of the Cell</i> , 2010 , 21, 3352-61	3.5	37
52	The binuclear CuA centre of cytochrome oxidase. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 1994 , 1187, 222-225	4.6	37
51	Structural basis of actin monomer re-charging by cyclase-associated protein. <i>Nature Communications</i> , 2018 , 9, 1892	17.4	37
50	Actin Filament Structures in Migrating Cells. <i>Handbook of Experimental Pharmacology</i> , 2017 , 235, 123-153	3.2	34
49	Functional characterization of Wiskott-Aldrich syndrome protein and scar homolog (WASH), a bi-modular nucleation-promoting factor able to interact with biogenesis of lysosome-related organelle subunit 2 (BLOS2) and gamma-tubulin. <i>Journal of Biological Chemistry</i> , 2010 , 285, 16951-7	5.4	34
48	How Leiomodulin and Tropomodulin use a common fold for different actin assembly functions. <i>Nature Communications</i> , 2015 , 6, 8314	17.4	33
47	Tropomyosin isoforms define distinct microfilament populations with different drug susceptibility. <i>European Journal of Cell Biology</i> , 2008 , 87, 709-20	6.1	33
46	Actin-binding proteins: the long road to understanding the dynamic landscape of cellular actin networks. <i>Molecular Biology of the Cell</i> , 2016 , 27, 2519-22	3.5	30
45	Two biochemically distinct and tissue-specific twinfilin isoforms are generated from the mouse <i>Twf2</i> gene by alternative promoter usage. <i>Biochemical Journal</i> , 2009 , 417, 593-600	3.8	29

44	Role for formin-like 1-dependent acto-myosin assembly in lipid droplet dynamics and lipid storage. <i>Nature Communications</i> , 2017 , 8, 14858	17.4	28
43	Engineered Cupredoxins and Bacterial Cytochrome c Oxidases Have Similar CuA Sites: Evidence from Resonance Raman Spectroscopy. <i>Journal of the American Chemical Society</i> , 1995 , 117, 10759-10760	16.4	28
42	GMF promotes leading-edge dynamics and collective cell migration in vivo. <i>Current Biology</i> , 2014 , 24, 2533-40	6.3	26
41	Palladin promotes assembly of non-contractile dorsal stress fibers through VASP recruitment. <i>Journal of Cell Science</i> , 2014 , 127, 1887-98	5.3	25
40	The effects of ADF/cofilin and profilin on the conformation of the ATP-binding cleft of monomeric actin. <i>Biophysical Journal</i> , 2009 , 96, 2335-43	2.9	25
39	Twinfilin 2a regulates platelet reactivity and turnover in mice. <i>Blood</i> , 2017 , 130, 1746-1756	2.2	25
38	Myosin-18B Promotes the Assembly of Myosin II Stacks for Maturation of Contractile Actomyosin Bundles. <i>Current Biology</i> , 2019 , 29, 81-92.e5	6.3	25
37	UNC-45a promotes myosin folding and stress fiber assembly. <i>Journal of Cell Biology</i> , 2017 , 216, 4053-4072	7.3	23
36	Ezrin enrichment on curved membranes requires a specific conformation or interaction with a curvature-sensitive partner. <i>ELife</i> , 2018 , 7,	8.9	22
35	The inverse BAR domain protein IBARa drives membrane remodeling to control osmoregulation, phagocytosis and cytokinesis. <i>Journal of Cell Science</i> , 2014 , 127, 1279-92	5.3	21
34	Solution structure of coactosin reveals structural homology to ADF/cofilin family proteins. <i>FEBS Letters</i> , 2004 , 576, 91-6	3.8	20
33	Twinfilin uncaps filament barbed ends to promote turnover of lamellipodial actin networks. <i>Nature Cell Biology</i> , 2021 , 23, 147-159	23.4	20
32	Identification of new surfaces of cofilin that link mitochondrial function to the control of multi-drug resistance. <i>Journal of Cell Science</i> , 2012 , 125, 2288-99	5.3	19
31	Ezrin enhances line tension along transcellular tunnel edges via NMIIa driven actomyosin cable formation. <i>Nature Communications</i> , 2017 , 8, 15839	17.4	17
30	CaMKK2 Regulates Mechanosensitive Assembly of Contractile Actin Stress Fibers. <i>Cell Reports</i> , 2018 , 24, 11-19	10.6	16
29	Tropomodulins Control the Balance between Protrusive and Contractile Structures by Stabilizing Actin-Tropomyosin Filaments. <i>Current Biology</i> , 2020 , 30, 767-778.e5	6.3	14
28	Generation of stress fibers through myosin-driven reorganization of the actin cortex. <i>ELife</i> , 2021 , 10,	8.9	13
27	Calponin-3 is critical for coordinated contractility of actin stress fibers. <i>Scientific Reports</i> , 2018 , 8, 17670	4.9	12

26	Molecular mechanism for inhibition of twinfilin by phosphoinositides. <i>Journal of Biological Chemistry</i> , 2018 , 293, 4818-4829	5.4	9
25	Immunization of rabbits with mosquito bites: immunoblot analysis of IgG antimosquito antibodies in rabbit and man. <i>International Archives of Allergy and Immunology</i> , 1990 , 93, 14-8	3.7	9
24	Assembly of Peripheral Actomyosin Bundles in Epithelial Cells Is Dependent on the CaMKK2/AMPK Pathway. <i>Cell Reports</i> , 2020 , 30, 4266-4280.e4	10.6	8
23	Effects of actin-binding proteins on the thermal stability of monomeric actin. <i>Biochemistry</i> , 2013 , 52, 152-60	3.2	8
22	The Sharpin interactome reveals a role for Sharpin in lamellipodium formation via the Arp2/3 complex. <i>Journal of Cell Science</i> , 2017 , 130, 3094-3107	5.3	8
21	Evidence for a role of MRCK in mediating HeLa cell elongation induced by the C1 domain ligand HMI-1a3. <i>European Journal of Pharmaceutical Sciences</i> , 2014 , 55, 46-57	5.1	8
20	Actin/microtubule crosstalk during platelet biogenesis in mice is critically regulated by Twinfilin1 and Cofilin1. <i>Blood Advances</i> , 2020 , 4, 2124-2134	7.8	7
19	Twinfilin-2a is dispensable for mouse development. <i>PLoS ONE</i> , 2011 , 6, e22894	3.7	6
18	A conserved regulatory mode in exocytic membrane fusion revealed by Mso1p membrane interactions. <i>Molecular Biology of the Cell</i> , 2013 , 24, 331-41	3.5	5
17	Attenuation of microRNA-1 derepresses the cytoskeleton regulatory protein twinfilin-1 to provoke cardiac hypertrophy. <i>Journal of Cell Science</i> , 2010 , 123, 2680-2680	5.3	5
16	A functional family of fluorescent nucleotide analogues to investigate actin dynamics and energetics. <i>Nature Communications</i> , 2021 , 12, 548	17.4	3
15	Actin-Monomer-Binding Proteins 2007 ,		2
14	Twinfilin Family of Actin Monomer-Binding Proteins 2007 , 53-60		2
13	Reply to: Are E-thymosins WH2 domains?. <i>FEBS Letters</i> , 2004 , 573, 233-233	3.8	2
12	Liposome Co-sedimentation and Co-flotation Assays to Study Lipid-Protein Interactions. <i>Methods in Molecular Biology</i> , 2021 , 2251, 195-204	1.4	2
11	Cofilin promotes rapid actin filament turnover in vivo. <i>Nature</i> , 1997 , 389, 211-211	50.4	1
10	NMR assignment of the C-terminal ADF-H domain of an actin monomer binding protein, twinfilin. <i>Journal of Biomolecular NMR</i> , 2006 , 36 Suppl 1, 66	3	1
9	(1)H, (13)C and (15)N resonance assignments of coactosin, a cytoskeletal regulatory protein. <i>Journal of Biomolecular NMR</i> , 2004 , 30, 365-6	3	1

8	SHANK3 conformation regulates direct actin binding and crosstalk with Rap1 signaling. <i>Current Biology</i> , 2021 , 31, 4956-4970.e9	6.3	1
7	Twinfilin uncaps filament barbed ends to promote turnover of lamellipodial actin networks		1
6	Full assembly of HIV-1 particles requires assistance of the membrane curvature factor IRSp53. <i>ELife</i> , 2021 , 10,	8.9	1
5	A myosin chaperone, UNC-45A, is a novel regulator of intestinal epithelial barrier integrity and repair.. <i>FASEB Journal</i> , 2022 , 36, e22290	0.9	1
4	Regulation of the Actin Cytoskeleton by Phospholipids. <i>Advances in Molecular and Cell Biology</i> , 2006 , 37, 201-219		
3	Regulation of the Cytoplasmic Actin Monomer Pool in Actin-based Motility 2010 , 213-235		
2	An variant links aberrant Rac1 function to early-onset skeletal fragility. <i>JBMR Plus</i> , 2021 , 5, e10509	3.9	
1	Mechanism of Borrelia immune evasion by FhbA-related proteins.. <i>PLoS Pathogens</i> , 2022 , 18, e1010338	7.6	