Rebecca Heald

List of Publications by Year
in descending order

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Version: 2024-02-01

116 papers	11,468 citations	44069 48 h-index	30922 102 g-index
151 all docs	151 docs citations	151 times ranked	9653 citing authors

#	Article	IF	Citations
1	Self-organization of microtubules into bipolar spindles around artificial chromosomes in Xenopus egg extracts. Nature, 1996, 382, 420-425.	27.8	921
2	Genome evolution in the allotetraploid frog Xenopus laevis. Nature, 2016, 538, 336-343.	27.8	849
3	Mutations of phosphorylation sites in lamin A that prevent nuclear lamina disassembly in mitosis. Cell, 1990, 61, 579-589.	28.9	628
4	Visualization of a Ran-GTP Gradient in Interphase and Mitotic Xenopus Egg Extracts. Science, 2002, 295, 2452-2456.	12.6	496
5	Dissection of the Mammalian Midbody Proteome Reveals Conserved Cytokinesis Mechanisms. Science, 2004, 305, 61-66.	12.6	448
6	Human wee1 maintains mitotic timing by protecting the nucleus from cytoplasmically activated cdc2 kinase. Cell, 1993, 74, 463-474.	28.9	446
7	A model for the proposed roles of different microtubule-based motor proteins in establishing spindle bipolarity. Current Biology, 1998, 8, 903-913.	3.9	394
8	Importin Î² Is a Mitotic Target of the Small GTPase Ran in Spindle Assembly. Cell, 2001, 104, 95-106.	28.9	373
9	Analysis of a RanGTP-regulated gradient in mitotic somatic cells. Nature, 2006, 440, 697-701.	27.8	339
10	Spindle Assembly in Xenopus Egg Extracts: Respective Roles of Centrosomes and Microtubule Self-Organization. Journal of Cell Biology, 1997, 138, 615-628.	5.2	328
11	Mechanisms of Mitotic Spindle Assembly and Function. International Review of Cytology, 2008, 265, 111-158.	6.2	313
12	Formation of Spindle Poles by Dynein/Dynactin-Dependent Transport of Numa. Journal of Cell Biology, 2000, 149, 851-862.	5.2	292
13	Mechanisms and Molecules of the Mitotic Spindle. Current Biology, 2004, 14, R797-R805.	3.9	290
14	The RanGTP gradient â€“ a GPS for the mitotic spindle. Journal of Cell Science, 2008, 121, 1577-1586.	2.0	259
15	A Rae1-Containing Ribonucleoprotein Complex Is Required for Mitotic Spindle Assembly. Cell, 2005, 121, 223-234.	28.9	257
16	Nuclear Size Is Regulated by Importin Î± and Ntf2 in Xenopus. Cell, 2010, 143, 288-298.	28.9	234
17	Cytoplasmic Volume Modulates Spindle Size During Embryogenesis. Science, 2013, 342, 856-860.	12.6	234
18	Importazole, a Small Molecule Inhibitor of the Transport Receptor Importin-Î². ACS Chemical Biology, 2011, 6, 700-708.	3.4	211

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19	Katanin Contributes to Interspecies Spindle Length Scaling in Xenopus. Cell, 2011, 147, 1397-1407.	28.9	184
20	Genome-wide analysis demonstrates conserved localization of messenger RNAs to mitotic microtubules. Journal of Cell Biology, 2007, 179, 1365-1373.	5.2	157
21	Investigating mitotic spindle assembly and function in vitro using Xenopus laevis egg extracts. Nature Protocols, 2006, 1, 2305-2314.	12.0	155
22	Thirty years of search and capture: The complex simplicity of mitotic spindle assembly. Journal of Cell Biology, 2015, 211, 1103-1111.	5.2	148
23	Motor Function in the Mitotic Spindle Minireview. Cell, 2000, 102, 399-402.	28.9	126
24	A computational model predicts Xenopus meiotic spindle organization. Journal of Cell Biology, 2010, 191, 1239-1249.	5.2	125
25	Mechanisms of Intracellular Scaling. Annual Review of Cell and Developmental Biology, 2012, 28, 113-135.	9.4	123
26	REEP3/4 Ensure Endoplasmic Reticulum Clearance from Metaphase Chromatin and Proper Nuclear Envelope Architecture. Developmental Cell, 2013, 26, 315-323.	7.0	120
27	Histone H1 is essential for mitotic chromosome architecture and segregation in Xenopus laevis egg extracts. Journal of Cell Biology, 2005, 169, 859-869.	5.2	116
28	Mitotic spindle scaling during Xenopus development by kif2a and importin Î±. ELife, 2013, 2, e00290.	6.0	116
29	Xenopus tropicalis egg extracts provide insight into scaling of the mitotic spindle. Journal of Cell Biology, 2007, 176, 765-770.	5.2	110
30	Microtubule dynamics. Journal of Cell Science, 2002, 115, 3-4.	2.0	110
31	A Comparative Analysis of Spindle Morphometrics across Metazoans. Current Biology, 2015, 25, 1542-1550.	3.9	98
32	Nuclear actin and protein 4.1: Essential interactions during nuclear assembly in vitro. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 10752-10757.	7.1	96
33	Methods for Studying Spindle Assembly and Chromosome Condensation in Xenopus Egg Extracts. Methods in Molecular Biology, 2006, 322, 459-474.	0.9	96
34	Importin Î± Partitioning to the Plasma Membrane Regulates Intracellular Scaling. Cell, 2019, 176, 805-815.e8.	28.9	94
35	The perichromosomal layer. Chromosoma, 2005, 114, 377-388.	2.2	91
36	Regulation of Op18 during Spindle Assembly in Xenopus Egg Extracts. Journal of Cell Biology, 2001, 153, 149-158.	5.2	84

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37	Cell structure and dynamics. Current Opinion in Cell Biology, 2011, 23, 1-3.	5.4	83
38	Centrosome proteins form an insoluble perinuclear matrix during muscle cell differentiation. BMC Cell Biology, 2009, 10, 28.	3.0	78
39	TPX2 levels modulate meiotic spindle size and architecture in Xenopus egg extracts. Journal of Cell Biology, 2014, 206, 385-393.	5.2	73
40	Micromanipulation Studies of Chromatin Fibers in Xenopus Egg Extracts Reveal ATP-dependent Chromatin Assembly Dynamics. Molecular Biology of the Cell, 2007, 18, 464-474.	2.1	71
41	Interplay Between Spindle Architecture and Function. International Review of Cell and Molecular Biology, 2013, 306, 83-125.	3.2	69
42	Paternal chromosome loss and metabolic crisis contribute to hybrid inviability in Xenopus. Nature, 2018, 553, 337-341.	27.8	69
43	Microtubules: 50 years on from the discovery of tubulin. Nature Reviews Molecular Cell Biology, 2016, 17, 322-328.	37.0	67
44	Identification of a Novel Protein Regulating Microtubule Stability through a Chemical Approach. Chemistry and Biology, 2004, 11, 135-146.	6.0	65
45	Mitotic noncoding RNA processing promotes kinetochore and spindle assembly in Xenopus. Journal of Cell Biology, 2016, 214, 133-141.	5.2	64
46	A cyclin-dependent kinase inhibitor inducing cancer cell differentiation: Biochemical identification using Xenopus egg extracts. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 4797-4802.	7.1	62
47	Morphology and function of membrane-bound organelles. Current Opinion in Cell Biology, 2014, 26, 79-86.	5.4	57
48	Xorbit/CLASP links dynamic microtubules to chromosomes in the Xenopus meiotic spindle. Journal of Cell Biology, 2006, 172, 19-25.	5.2	55
49	The condensin complex is required for proper spindle assembly and chromosome segregation in Xenopus egg extracts. Journal of Cell Biology, 2003, 161, 1041-1051.	5.2	52
50	Biological Scaling Problems and Solutions in Amphibians. Cold Spring Harbor Perspectives in Biology, 2016, 8, a019166.	5.5	43
51	Microtubule-based motor function in mitosis. Current Opinion in Structural Biology, 1999, 9, 268-274.	5.7	42
52	Synthesis and Biological Evaluation of Myoseverin Derivatives:â€‰ Microtubule Assembly Inhibitors. Journal of Medicinal Chemistry, 2001, 44, 4497-4500.	6.4	42
53	Mitotic Spindle Assembly around RCC1-Coated Beads in Xenopus Egg Extracts. PLoS Biology, 2011, 9, e1001225.	5.6	41
54	Chromosome movement: Dynein-out at the kinetochore. Current Biology, 2001, 11, R128-R131.	3.9	40

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55	Histone H1 compacts DNA under force and during chromatin assembly. Molecular Biology of the Cell, 2012, 23, 4864-4871.	2.1	40
56	Multiple domains of human CLASP contribute to microtubule dynamics and organization in vitro and in Xenopus egg extracts. Cytoskeleton, 2012, 69, 155-165.	2.0	40
57	Preparation of Cellular Extracts from Xenopus Eggs and Embryos. Cold Spring Harbor Protocols, 2018, 2018, pdb.prot097055.	0.3	38
58	Discovery of Selective Aminothiazole Aurora Kinase Inhibitors. ACS Chemical Biology, 2008, 3, 180-192.	3.4	37
59	Spindles get the Ran around. Trends in Cell Biology, 2000, 10, 1-4.	7.9	36
60	Two Distinct Domains of Protein 4.1 Critical for Assembly of Functional Nuclei in Vitro. Journal of Biological Chemistry, 2002, 277, 44339-44346.	3.4	36
61	Regulatory remodeling in the allo-tetraploid frog Xenopus laevis. Genome Biology, 2017, 18, 198.	8.8	34
62	Mitotic chromosome size scaling in Xenopus. Cell Cycle, 2011, 10, 3863-3870.	2.6	33
63	N-Terminal Phosphorylation of p60 Katanin Directly Regulates Microtubule Severing. Journal of Molecular Biology, 2013, 425, 214-221.	4.2	32
64	Enzymatically Generated CRISPR Libraries for Genome Labeling and Screening. Developmental Cell, 2015, 34, 373-378.	7.0	32
65	Essential roles for cohesin in kinetochore and spindle function in Xenopus egg extracts. Journal of Cell Science, 2006, 119, 5057-5066.	2.0	31
66	RanGTP and CLASP1 cooperate to position the mitotic spindle. Molecular Biology of the Cell, 2013, 24, 2506-2514.	2.1	31
67	Adenomatous Polyposis Coli Associates with the Microtubule-Destabilizing Protein XMCAK. Current Biology, 2004, 14, 2033-2038.	3.9	30
68	Xnf7 Contributes to Spindle Integrity through Its Microtubule-Bundling Activity. Current Biology, 2005, 15, 1755-1761.	3.9	29
69	Subcellular scaling: does size matter for cell division?. Current Opinion in Cell Biology, 2018, 52, 88-95.	5.4	27
70	Katanin-like protein Katnal2 is required for ciliogenesis and brain development in Xenopus embryos. Developmental Biology, 2018, 442, 276-287.	2.0	27
71	The Long and the Short of it: Linker Histone H1 is Required for Metaphase Chromosome Compaction. Cell Cycle, 2006, 5, 589-591.	2.6	26
72	Two Protein 4.1 Domains Essential for Mitotic Spindle and Aster Microtubule Dynamics and Organization in Vitro. Journal of Biological Chemistry, 2004, 279, 27591-27598.	3.4	22

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73	Kif2a Scales Meiotic Spindle Size in Hymenochirus boettgeri. Current Biology, 2019, 29, 3720-3727.e5.	3.9	22
74	Functional Comparison of H1 Histones in Xenopus Reveals Isoform-Specific Regulation by Cdk1 and RanGTP. Current Biology, 2010, 20, 1048-1052.	3.9	21
75	Glutamylation of Nap1 modulates histone H1 dynamics and chromosome condensation in Xenopus. Journal of Cell Biology, 2015, 209, 211-220.	5.2	18
76	Atomic force microscope imaging of chromatin assembled in Xenopus laevis egg extract. Chromosoma, 2011, 120, 245-254.	2.2	17
77	Spindle assembly in egg extracts of the Marsabit clawed frog, Xenopus borealis. Cytoskeleton, 2018, 75, 244-257.	2.0	17
78	A dynamic duo of microtubule modulators. Nature Cell Biology, 2000, 2, E11-E12.	10.3	16
79	Identification of a novel protein regulating microtubule stability through a chemical approach. Chemistry and Biology, 2004, 11, 135-46.	6.0	16
80	Analysis of microtubule polymerization in vitro and during the cell cycle in Xenopus egg extracts. Methods, 2006, 38, 29-34.	3.8	15
81	Scratch nâ€™ Screen for Inhibitors of Cell Migration. Chemistry and Biology, 2005, 12, 263-265.	6.0	14
82	Methods for the study of centrosome-independent spindle assembly in Xenopus extracts. Methods in Cell Biology, 2001, 67, 241-256.	1.1	13
83	A versatile multivariate image analysis pipeline reveals features of Xenopus extract spindles. Journal of Cell Biology, 2016, 213, 127-136.	5.2	13
84	The power of amphibians to elucidate mechanisms of size control and scaling. Experimental Cell Research, 2020, 392, 112036.	2.6	13
85	SnapShot: Motor Proteins in Spindle Assembly. Cell, 2008, 134, 548-548.e1.	28.9	12
86	Identification and characterization of centromeric sequences in Xenopus laevis. Genome Research, 2021, 31, 958-967.	5.5	12
87	Role of chromosomes in assembly of meiotic and mitotic spindles. , 1997, 3, 271-284.		12
88	Kinetochore function: The complications of becoming attached. Current Biology, 2001, 11, R855-R857.	3.9	11
89	Transcription brings the complex(ity) to the centromere. Cell Cycle, 2017, 16, 235-236.	2.6	11
90	Emergent properties of mitotic chromosomes. Current Opinion in Cell Biology, 2020, 64, 43-49.	5.4	11

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91	Xenopus Hybrids Provide Insight Into Cell and Organism Size Control. Frontiers in Physiology, 2018, 9, 1758.	2.8	10
92	Centrosomes and Kinetochores, Who Needs 'Em? The Role of Noncentromeric Chromatin in Spindle Assembly. Current Topics in Developmental Biology, 2003, 56, 85-113.	2.2	9
93	Challenges facing the biologist doing chemical genetics. Nature Chemical Biology, 2006, 2, 55-58.	8.0	8
94	Xenopus Egg Extracts Increase Dynamics of Histone H1 on Sperm Chromatin. PLoS ONE, 2010, 5, e13111.	2.5	6
95	Burning the spindle at both ends. Nature, 2004, 427, 300-301.	27.8	5
96	Generation of Xenopus Haploid, Triploid, and Hybrid Embryos. Methods in Molecular Biology, 2019, 1920, 303-315.	0.9	5
97	The Use of Cell-Free Xenopus Extracts to Investigate Cytoplasmic Events. Cold Spring Harbor Protocols, 2019, 2019, pdb.top097048.	0.3	5
98	Serving Up a Plate of Chromosomes. Science, 2006, 311, 343-344.	12.6	4
99	Mitotic Spindle Assembly Mechanisms. , 2009, , 1-38.		4
100	A lab co-op helps young faculty members to thrive. Nature, 2018, 556, 409-409.	27.8	3
101	Centromere Glue Provides Spindle Cue. Cell, 2004, 118, 529-530.	28.9	2
102	Rebecca Heald. Current Biology, 2010, 20, R503-R504.	3.9	2
103	Cryptic No Longer: Arrays of CLASP1 TOG Domains. Structure, 2013, 21, 869-870.	3.3	2
104	RUVs Drive Chromosome Decondensation after Mitosis. Developmental Cell, 2014, 31, 259-260.	7.0	2
105	The Incredible Shrinking Spindle. Developmental Cell, 2018, 45, 421-423.	7.0	2
106	Mechanisms of Mitotic Spindle Assembly and Function. FASEB Journal, 2007, 21, A93.	0.5	2
107	Reconstitution of muscle cell microtubule organization in vitro. Cytoskeleton, 2021, 78, 492-502.	2.0	2
108	Mitotic spindles and microtubule dynamics inXenopusegg extracts. Seminars in Cell and Developmental Biology, 1996, 7, 467-473.	5.0	1

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109	Mitotic Spindle Assembly In Vitro. Current Protocols in Cell Biology, 2001, 9, Unit 11.13.	2.3	1
110	Chromosome Congression: Another Fine Mesh Weâ€™ve Gotten into. Developmental Cell, 2005, 9, 314-315.	7.0	1
111	Altering membrane topology with Sar1 does not impair spindle assembly in Xenopus egg extracts. Cytoskeleton, 2012, 69, 591-599.	2.0	1
112	A DNA Crosslinker Collects Mitotic Chromosomes. Developmental Cell, 2017, 42, 440-442.	7.0	1
113	Cell Biology: The Health Hazards of Super-Sizing. Current Biology, 2019, 29, R289-R292.	3.9	1
114	The Role of Chromosome Architecture in Spindle Assembly and Anaphase: The Condensed Version. Cell Cycle, 2003, 2, 589-590.	2.6	0
115	Limiting Cytoplasmic Components Couple Spindle Size to Cell Size during Embryogenesis. Biophysical Journal, 2014, 106, 167a.	0.5	0
116	Cover Image, Volume 75, Issue 6. Cytoskeleton, 2018, 75, C1-C1.	2.0	0