Arthur L Horwich

List of Publications by Year
in descending order

91 papers	16,717 citations	46918 47 h-index	51492 86 g-index
93 all docs	93 docs citations	93 times ranked	9296 citing authors

#	Article	IF	Citations
1	The Hsp70 and Hsp60 Chaperone Machines. Cell, 1998, 92, 351-366.	13.5	2,634
2	The crystal structure of the bacterial chaperonln GroEL at 2.8 Ã…. Nature, 1994, 371, 578-586.	13.7	1,363
3	The crystal structure of the asymmetric GroELâ€“GroESâ€“(ADP)7 chaperonin complex. Nature, 1997, 388, 741-750.	13.7	1,191
4	Mitochondrial heat-shock protein hsp60 is essential for assembly of proteins imported into yeast mitochondria. Nature, 1989, 337, 620-625.	13.7	944
5	Chaperonin-mediated protein folding at the surface of groEL through a 'molten globule'-like intermediate. Nature, 1991, 352, 36-42.	13.7	900
6	Protein folding in mitochondria requires complex formation with hsp60 and ATP hydrolysis. Nature, 1989, 341, 125-130.	13.7	702
7	TCP1 complex is a molecular chaperone in tubulin biogenesis. Nature, 1992, 358, 245-248.	13.7	467
8	Characterization of the Active Intermediate of a GroELâ€“GroES-Mediated Protein Folding Reaction. Cell, 1996, 84, 481-490.	13.5	395
9	NMR analysis of a 900K GroELâ€“GroES complex. Nature, 2002, 418, 207-211.	13.7	394
10	Distinct actions of cis and trans ATP within the double ring of the chaperonin GroEL. Nature, 1997, 388, 792-798.	13.7	392
11	Two Families of Chaperonin: Physiology and Mechanism. Annual Review of Cell and Developmental Biology, 2007, 23, 115-145.	4.0	384
12	GroEL-mediated protein folding proceeds by multiple rounds of binding and release of nonnative forms. Cell, 1994, 78, 693-702.	13.5	375
13	Folding in vivo of bacterial cytoplasmic proteins: Role of GroEL. Cell, 1993, 74, 909-917.	13.5	355
14	A molecular chaperone from a thermophilic archaebacterium is related to the eukaryotic protein t-complex polypeptide-1. Nature, 1991, 354, 490-493.	13.7	348
15	GroELâ€Mediated protein folding. Protein Science, 1997, 6, 743-760.	3.1	318
16	GroEL-GroES Cycling. Cell, 1999, 97, 325-338.	13.5	308
17	ATP-Bound States of GroEL Captured by Cryo-Electron Microscopy. Cell, 2001, 107, 869-879.	13.5	274
18	Mechanisms of protein folding. Current Opinion in Structural Biology, 2001, 11, 70-82.	2.6	258

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19	GroELâˆ'GroES-Mediated Protein Folding. Chemical Reviews, 2006, 106, 1917-1930.	23.0	226
20	Loops in the Central Channel of ClpA Chaperone Mediate Protein Binding, Unfolding, and Translocation. Cell, 2005, 121, 1029-1041.	13.5	217
21	Cystosolic chaperonin subunits have a conserved ATPase domain but diverged polypeptide-binding domains. Trends in Biochemical Sciences, 1994, 19, 543-548.	3.7	194
22	Multivalent Binding of Nonnative Substrate Proteins by the Chaperonin GroEL. Cell, 2000, 100, 561-573.	13.5	183
23	An ALS-Linked Mutant SOD1 Produces a Locomotor Defect Associated with Aggregation and Synaptic Dysfunction When Expressed in Neurons of Caenorhabditis elegans. PLoS Genetics, 2009, 5, e1000350.	1.5	175
24	GroEL/GroES-Mediated Folding of a Protein Too Large to Be Encapsulated. Cell, 2001, 107, 235-246.	13.5	169
25	ATP-Triggered Conformational Changes Delineate Substrate-Binding and -Folding Mechanics of the GroEL Chaperonin. Cell, 2012, 149, 113-123.	13.5	160
26	Structure and Allostery of the Chaperonin GroEL. Journal of Molecular Biology, 2013, 425, 1476-1487.	2.0	153
27	Chaperonin-mediated protein folding: fate of substrate polypeptide. Quarterly Reviews of Biophysics, 2003, 36, 229-256.	2.4	145
28	Allosteric signaling of ATP hydrolysis in GroELâ€"GroES complexes. Nature Structural and Molecular Biology, 2006, 13, 147-152.	3.6	142
29	Solution NMR Techniques for Large Molecular and Supramolecular Structures. Journal of the American Chemical Society, 2002, 124, 12144-12153.	6.6	141
30	Global aggregation of newly translated proteins in an Escherichia coli strain deficient of the chaperonin GroEL. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 15800-15805.	3.3	141
31	Chaperonin-mediated protein folding: using a central cavity to kinetically assist polypeptide chain folding. Quarterly Reviews of Biophysics, 2009, 42, 83-116.	2.4	137
32	Maturation of Human Cyclin E Requires the Function of Eukaryotic Chaperonin CCT. Molecular and Cellular Biology, 1998, 18, 7584-7589.	1.1	134
33	Role of the Â-phosphate of ATP in triggering protein folding by GroEL-GroES: function, structure and energetics. EMBO Journal, 2003, 22, 4877-4887.	3.5	130
34	Gene deletion and restriction fragment length polymorphisms at the human ornithine transcarbamylase locus. Nature, 1985, 313, 815-817.	13.7	129
35	Progressive aggregation despite chaperone associations of a mutant SOD1-YFP in transgenic mice that develop ALS. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 1392-1397.	3.3	128
36	Direct NMR observation of a substrate protein bound to the chaperonin GroEL. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12748-12753.	3.3	114

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37	Exploring the Structural Dynamics of the E.coli Chaperonin GroEL Using Translation-libration-screw Crystallographic Refinement of Intermediate States. Journal of Molecular Biology, 2004, 342, 229-245.	2.0	109
38	Topologies of a Substrate Protein Bound to the Chaperonin GroEL. Molecular Cell, 2007, 26, 415-426.	4.5	96
39	Chaperonin chamber accelerates protein folding through passive action of preventing aggregation. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17351-17355.	3.3	94
40	Protein aggregation in disease: a role for folding intermediates forming specific multimeric interactions. Journal of Clinical Investigation, 2002, 110, 1221-1232.	3.9	85
41	The GroEL/GroES <i>cis</i> cavity as a passive antiâ€aggregation device. FEBS Letters, 2009, 583, 2654-2662.	1.3	79
42	Folding of malate dehydrogenase inside the GroEL-GroES cavity. Nature Structural Biology, 2001, 8, 721-728.	9.7	77
43	Sorting pathways of mitochondrial inner membrane proteins. FEBS Journal, 1990, 192, 551-555.	0.2	76
44	Substrate polypeptide presents a load on the apical domains of the chaperonin GroEL. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15005-15012.	3.3	74
45	Folding with and without encapsulation by cis- and trans-only GroEL-GroES complexes. EMBO Journal, 2003, 22, 3220-3230.	3.5	70
46	RNA-Seq Profiling of Spinal Cord Motor Neurons from a Presymptomatic SOD1 ALS Mouse. PLoS ONE, 2013, 8, e53575.	1.1	62
47	Selective degeneration of a physiological subtype of spinal motor neuron in mice with SOD1-linked ALS. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16883-16888.	3.3	56
48	Extended survival of misfolded G85R SOD1-linked ALS mice by transgenic expression of chaperone Hsp110. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5424-5428.	3.3	55
49	Molecular chaperone Hsp110 rescues a vesicle transport defect produced by an ALS-associated mutant SOD1 protein in squid axoplasm. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5428-5433.	3.3	49
50	Folding trajectories of human dihydrofolate reductase inside the GroEL-GroES chaperonin cavity and free in solution. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20788-20792.	3.3	48
51	Perturbed ATPase activity and not "close confinement" of substrate in the cis cavity affects rates of folding by tail-multiplied GroEL. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5342-5347.	3.3	44
52	Hsp110 mitigates Î±-synuclein pathology in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 24310-24316.	3.3	44
53	Molecular Chaperones in Cellular Protein Folding: The Birth of a Field. Cell, 2014, 157, 285-288.	13.5	43
54	A mutant chaperonin with rearranged inter-ring electrostatic contacts and temperature-sensitive dissociation. Nature Structural and Molecular Biology, 2004, 11, 1128-1133.	3.6	39

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55	Chaperonin-assisted protein folding: a chronologue. Quarterly Reviews of Biophysics, 2020, 53, e4.	2.4	36
56	A biochemical screen for GroEL/GroES inhibitors. Bioorganic and Medicinal Chemistry Letters, 2014, 24, 786-789.	1.0	35
57	GroEL/ES inhibitors as potential antibiotics. Bioorganic and Medicinal Chemistry Letters, 2016, 26, 3127-3134.	1.0	35
58	Sulfonamido-2-arylbenzoxazole GroEL/ES Inhibitors as Potent Antibacterials against Methicillin-Resistant <i>Staphylococcus aureus</i> (MRSA). Journal of Medicinal Chemistry, 2018, 61, 7345-7357.	2.9	35
59	Short-term response to dietary therapy in molybdenum cofactor deficiency. Annals of Neurology, 1993, 34, 742-744.	2.8	34
60	GroEL/GroES cycling: ATP binds to an open ring before substrate protein favoring protein binding and production of the native state. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 20264-20269.	3.3	34
61	Absence of lipofuscin in motor neurons of SOD1-linked ALS mice. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11055-11060.	3.3	33
62	Trisomy 18 associated with ectopia cordis and occipital meningocele. American Journal of Medical Genetics Part A, 1988, 30, 805-810.	2.4	32
63	Multiple States of a Nucleotide-Bound Group 2 Chaperonin. Structure, 2008, 16, 528-534.	1.6	32
64	Protein folding in the cell: an inside story. Nature Medicine, 2011, 17, 1211-1216.	15.2	32
65	Proton-proton Overhauser NMR spectroscopy with polypeptide chains in large structures. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 15445-15450.	3.3	30
66	Double mutant MBP refolds at same rate in free solution as inside the GroEL/GroES chaperonin chamber when aggregation in free solution is prevented. FEBS Letters, 2011, 585, 1969-1972.	1.3	30
67	Requirement for binding multiple ATPs to convert a GroEL ring to the folding-active state. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 19205-19210.	3.3	28
68	Targeting the HSP60/10 chaperonin systems of Trypanosoma brucei as a strategy for treating African sleeping sickness. Bioorganic and Medicinal Chemistry Letters, 2016, 26, 5247-5253.	1.0	26
69	Aqueductal stenosis leading to hydrocephalusâ€”an unusual manifestation of neurofibromatosis. American Journal of Medical Genetics Part A, 1983, 14, 577-581.	2.4	22
70	Localization of GroEL determined by in vivo incorporation of a fluorescent amino acid. Bioorganic and Medicinal Chemistry Letters, 2011, 21, 6067-6070.	1.0	22
71	Reduced high-frequency motor neuron firing, EMG fractionation, and gait variability in awake walking ALS mice. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7600-E7609.	3.3	22
72	No evidence for a forced-unfolding mechanism during ATP/GroES binding to substrate-bound GroEL: no observable protection of metastable Rubisco intermediate or GroEL-bound Rubisco from tritium exchange. FEBS Letters, 2005, 579, 1183-1186.	1.3	20

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73	Nuclear magnetic resonance spectroscopy with the stringent substrate rhodanese bound to the singleâ€ring variant SR1 of the <i>E. coli</i> chaperonin GroEL. Protein Science, 2011, 20, 1380-1386.	3.1	20
74	Chaperonin-mediated Protein Folding. Journal of Biological Chemistry, 2013, 288, 23622-23632.	1.6	19
75	A small molecule inhibitor selective for a variant ATP-binding site of the chaperonin GroEL. Bioorganic and Medicinal Chemistry Letters, 2009, 19, 811-813.	1.0	18
76	Transfer of pathogenic and nonpathogenic cytosolic proteins between spinal cord motor neurons in vivo in chimeric mice. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E3139-E3148.	3.3	18
77	Hydrogenâ€"deuterium exchange in vivo to measure turnover of an ALSâ€associated mutant SOD1 protein in spinal cord of mice. Protein Science, 2011, 20, 1692-1696.	3.1	13
78	Chaperoned Protein Disaggregationâ€"The ClpB Ring Uses Its Central Channel. Cell, 2004, 119, 579-581.	13.5	11
79	Disulfide formation as a probe of folding in GroEL-GroES reveals correct formation of long-range bonds and editing of incorrect short-range ones. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2145-2150.	3.3	11
80	A two-domain folding intermediate of RuBisCO in complex with the GroEL chaperonin. International Journal of Biological Macromolecules, 2018, 118, 671-675.	3.6	11
81	Establishment of Leftâ€Right Asymmetry in Vertebrates: Genetically Distinct Steps are Involved. Novartis Foundation Symposium, 1991, 162, 202-218.	1.2	11
82	An ALS-Associated Mutant SOD1 Rapidly Suppresses KCNT1 (Slack) Na⁺-Activated K⁺Channels in<i>Aplysia</i>Neurons. Journal of Neuroscience, 2017, 37, 2258-2265.	1.7	7
83	Unfolded DapA forms aggregates when diluted into free solution, confounding comparison with folding by the GroEL/GroES chaperonin system. FEBS Letters, 2015, 589, 497-499.	1.3	6
84	ATPâ€triggered ADP release from the asymmetric chaperonin GroEL/GroES/ADP₇ is not the rateâ€limiting step of the GroEL/GroES reaction cycle. FEBS Letters, 2010, 584, 951-953.	1.3	3
85	Chemical Strike against a Dominant-Inherited MUC1-Frameshifted Protein Associated with Progressive Kidney Disease. Trends in Molecular Medicine, 2019, 25, 821-823.	3.5	3
86	Chaperonin studies: faith, luck, and a little help from our friends. Molecular Biology of the Cell, 2017, 28, 2915-2918.	0.9	2
87	The GroEL/GroES Chaperonin Machine. , 0, , 191-207.		1
88	MOLECULAR STUDY OF ORNITHINE TRANSCARBAMYLASE: OTC DEFICIENCY AND ANALYSIS OF MITOCHONDRIAL TARGETING OF THE OTC PRECURSOR. Pediatric Research, 1987, 21, 6A-6A.	1.1	0
89	Role of Chaperones in Neurodegeneration. CNS Neuroscience & Therapeutics, 2000, 6, 29-29.	4.0	0
90	Direct NMR observation of a substrate protein bound to the chaperonin GroEL. , 2021, , 99-104.		0

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91	NMR analysis of a 900K GroELâ€"GroES complex. , 2021, , 67-71.		0