Matthias P Mayer

List of Publications by Year
in descending order

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130 papers	14,627 citations	22153 59 h-index	20961 115 g-index
147 all docs	147 docs citations	147 times ranked	12538 citing authors

#	Article	IF	Citations
1	Hsp70 chaperones: Cellular functions and molecular mechanism. Cellular and Molecular Life Sciences, 2005, 62, 670-84.	5.4	2,356
2	The Hsp70 chaperone network. Nature Reviews Molecular Cell Biology, 2019, 20, 665-680.	37.0	721
3	Mechanism of regulation of Hsp70 chaperones by DnaJ cochaperones. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 5452-5457.	7.1	521
4	Hsp70 chaperone dynamics and molecular mechanism. Trends in Biochemical Sciences, 2013, 38, 507-514.	7.5	368
5	Structure and Dynamics of the ATP-Bound Open Conformation of Hsp70 Chaperones. Molecular Cell, 2012, 48, 863-874.	9.7	362
6	Human Hsp70 Disaggregase Reverses Parkinsonâ€™s-Linked Î±-Synuclein Amyloid Fibrils. Molecular Cell, 2015, 59, 781-793.	9.7	336
7	Multistep mechanism of substrate binding determines chaperone activity of Hsp70. Nature Structural Biology, 2000, 7, 586-593.	9.7	335
8	Modulation of the Escherichia coliÏƒ^E (RpoE) heatâ€shock transcriptionâ€factor activity by the RseA, RseB and RseC proteins. Molecular Microbiology, 1997, 24, 355-371.	2.5	327
9	Crucial HSP70 co-chaperone complex unlocks metazoan protein disaggregation. Nature, 2015, 524, 247-251.	27.8	320
10	Gymnastics of Molecular Chaperones. Molecular Cell, 2010, 39, 321-331.	9.7	309
11	Chaperone network in the yeast cytosol: Hsp110 is revealed as an Hsp70 nucleotide exchange factor. EMBO Journal, 2006, 25, 2510-2518.	7.8	243
12	A new set of useful cloning and expression vectors derived from pBlueScript. Gene, 1995, 163, 41-46.	2.2	210
13	Tuning of chaperone activity of Hsp70 proteins by modulation of nucleotide exchange. Nature Structural Biology, 2001, 8, 427-432.	9.7	205
14	Recruitment of Hsp70 chaperones: a crucial part of viral survival strategies. , 2005, 153, 1-46.		204
15	Recent advances in the structural and mechanistic aspects of Hsp70 molecular chaperones. Journal of Biological Chemistry, 2019, 294, 2085-2097.	3.4	202
16	Molecular Mechanism of J-Domain-Triggered ATP Hydrolysis by Hsp70 Chaperones. Molecular Cell, 2018, 69, 227-237.e4.	9.7	201
17	Allosteric Regulation of Hsp70 Chaperones Involves a Conserved Interdomain Linker. Journal of Biological Chemistry, 2006, 281, 38705-38711.	3.4	196
18	Mechanics of Hsp70 chaperones enables differential interaction with client proteins. Nature Structural and Molecular Biology, 2011, 18, 345-351.	8.2	181

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19	Mutations in the DnaK chaperone affecting interaction with the DnaJ cochaperone. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 15229-15234.	7.1	170
20	The Hsp70â€“Hsp90 Chaperone Cascade in Protein Folding. Trends in Cell Biology, 2019, 29, 164-177.	7.9	170
21	Alternative modes of client binding enable functional plasticity of Hsp70. Nature, 2016, 539, 448-451.	27.8	167
22	Allosteric Regulation of Hsp70 Chaperones by a Proline Switch. Molecular Cell, 2006, 21, 359-367.	9.7	166
23	Functional Analysis of Hsp70 Inhibitors. PLoS ONE, 2013, 8, e78443.	2.5	160
24	Profiling Ssb-Nascent Chain Interactions Reveals Principles of Hsp70-Assisted Folding. Cell, 2017, 170, 298-311.e20.	28.9	154
25	Molecular Basis for Regulation of the Heat Shock Transcription Factor Ïƒ32 by the DnaK and DnaJ Chaperones. Molecular Cell, 2008, 32, 347-358.	9.7	151
26	Hsp90: Breaking the Symmetry. Molecular Cell, 2015, 58, 8-20.	9.7	148
27	Small heat shock proteins sequester misfolding proteins in near-native conformation for cellular protection and efficient refolding. Nature Communications, 2016, 7, 13673.	12.8	147
28	Bag-1M Accelerates Nucleotide Release for Human Hsc70 and Hsp70 and Can Act Concentration-dependent as Positive and Negative Cofactor. Journal of Biological Chemistry, 2001, 276, 32538-32544.	3.4	146
29	Hsp110 Is a Nucleotide-activated Exchange Factor for Hsp70. Journal of Biological Chemistry, 2008, 283, 8877-8884.	3.4	142
30	Allostery in the Hsp70 Chaperone Proteins. Topics in Current Chemistry, 2012, 328, 99-153.	4.0	142
31	Molecular chaperones: The busy life of Hsp90. Current Biology, 1999, 9, R322-R325.	3.9	138
32	Investigation of the Interaction between DnaK and DnaJ by Surface Plasmon Resonance Spectroscopy. Journal of Molecular Biology, 1999, 289, 1131-1144.	4.2	126
33	Hsp70 chaperone machines. Advances in Protein Chemistry, 2001, 59, 1-44.	4.4	126
34	Spatially and kinetically resolved changes in the conformational dynamics of the Hsp90 chaperone machine. EMBO Journal, 2009, 28, 602-613.	7.8	126
35	Hsp90 Breaks the Deadlock of the Hsp70 Chaperone System. Molecular Cell, 2018, 70, 545-552.e9.	9.7	124
36	Molecular Basis for Interactions of the DnaK Chaperone with Substrates. Biological Chemistry, 2000, 381, 877-85.	2.5	111

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37	Amide Hydrogen Exchange Reveals Conformational Changes in Hsp70 Chaperones Important for Allosteric Regulation. Journal of Biological Chemistry, 2006, 281, 16493-16501.	3.4	111
38	Human Heat Shock Protein 70 Enhances Tumor Antigen Presentation through Complex Formation and Intracellular Antigen Delivery without Innate Immune Signaling. Journal of Biological Chemistry, 2007, 282, 31688-31702.	3.4	111
39	Pathways of allosteric regulation in Hsp70 chaperones. Nature Communications, 2015, 6, 8308.	12.8	110
40	Quinone compounds are able to replace molecular oxygen as terminal electron acceptor in phytoene desaturation in chromoplasts of Narcissus pseudonarcissus L.. FEBS Journal, 1990, 191, 359-363.	0.2	109
41	Charged linker sequence modulates eukaryotic heat shock protein 90 (Hsp90) chaperone activity. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 2937-2942.	7.1	107
42	Molecular mechanism of thermosensory function of human heat shock transcription factor Hsf1. ELife, 2016, 5, .	6.0	106
43	Dimerization of the Human E3 Ligase CHIP via a Coiled-coil Domain Is Essential for Its Activity. Journal of Biological Chemistry, 2004, 279, 2673-2678.	3.4	105
44	An Extended Helical Conformation in Domain 3a of Munc18-1 Provides a Template for SNARE (Soluble) Tj ETQq0 0 0 rgBT /Overlock 10 T Biological Chemistry, 2014, 289, 9639-9650.	3.4	105
45	Molecular oxygen and the state of geometric isomerism of intermediates are essential in the carotene desaturation and cyclization reactions in daffodil chromoplasts. FEBS Journal, 1989, 184, 141-150.	0.2	101
46	CHIP participates in protein triage decisions by preferentially ubiquitinating Hsp70â€bound substrates. FEBS Journal, 2010, 277, 3353-3367.	4.7	91
47	Dynamics of the regulation of Hsp90 by the co-chaperone Sti1. EMBO Journal, 2012, 31, 1518-1528.	7.8	85
48	Mechanisms of Protein Folding: Molecular Chaperones and Their Application in Biotechnology. ChemBioChem, 2002, 3, 807-814.	2.6	84
49	Posttranscriptional Control of Quorum-Sensing-Dependent Virulence Genes by DksA in Pseudomonas aeruginosa. Journal of Bacteriology, 2003, 185, 3558-3566.	2.2	84
50	Dynamics of Trigger Factor Interaction with Translating Ribosomes. Journal of Biological Chemistry, 2008, 283, 4124-4132.	3.4	82
51	Hsp70- and Hsp90-Mediated Regulation of the Conformation of p53 DNA Binding Domain and p53 Cancer Variants. Molecular Cell, 2019, 74, 831-843.e4.	9.7	80
52	Hsp90 charged-linker truncation reverses the functional consequences of weakened hydrophobic contacts in the N domain. Nature Structural and Molecular Biology, 2009, 16, 1141-1147.	8.2	78
53	The Chaperone Network Connected to Human Ribosome-Associated Complex. Molecular and Cellular Biology, 2011, 31, 1160-1173.	2.3	77
54	Mechanism of substrate recognition by Hsp70 chaperones. Biochemical Society Transactions, 2004, 32, 617-621.	3.4	72

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55	Bclaf1 promotes angiogenesis by regulating HIF-1Î± transcription in hepatocellular carcinoma. Oncogene, 2019, 38, 1845-1859.	5.9	71
56	Targeting heat shock protein 90 with non-quinone inhibitors: A novel chemotherapeutic approach in human hepatocellular carcinoma. Hepatology, 2009, 50, 102-112.	7.3	68
57	Modulation of substrate specificity of the DnaK chaperone by alteration of a hydrophobic arch. Journal of Molecular Biology, 2000, 304, 245-251.	4.2	65
58	Insights into the molecular mechanism of allostery in Hsp70s. Frontiers in Molecular Biosciences, 2015, 2, 58.	3.5	64
59	Influence of GrpE on DnaK-Substrate Interactions. Journal of Biological Chemistry, 2004, 279, 27957-27964.	3.4	62
60	Human and yeast Hsp110 chaperones exhibit functional differences. FEBS Letters, 2006, 580, 168-174.	2.8	62
61	Dynamic enzyme docking to the ribosome coordinates N-terminal processing with polypeptide folding. Nature Structural and Molecular Biology, 2013, 20, 843-850.	8.2	58
62	A prion-like domain in Hsp42 drives chaperone-facilitated aggregation of misfolded proteins. Journal of Cell Biology, 2018, 217, 1269-1285.	5.2	57
63	Feedback regulation of heat shock factor 1 (Hsf1) activity by Hsp70â€mediated trimer unzipping and dissociation from <scp>DNA</scp>. EMBO Journal, 2020, 39, e104096.	7.8	55
64	c-Abl Mediated Tyrosine Phosphorylation of Aha1 Activates Its Co-chaperone Function in Cancer Cells. Cell Reports, 2015, 12, 1006-1018.	6.4	54
65	Asna1/TRC40-mediated membrane insertion of tail-anchored proteins. Journal of Cell Science, 2010, 123, 1522-1530.	2.0	53
66	Chaperone Action at the Single-Molecule Level. Chemical Reviews, 2014, 114, 660-676.	47.7	51
67	Mapping Temperature-induced Conformational Changes in the Escherichia coli Heat Shock Transcription Factor Ïƒ32 by Amide Hydrogen Exchange. Journal of Biological Chemistry, 2003, 278, 51415-51421.	3.4	50
68	The Novolactone Natural Product Disrupts the Allosteric Regulation of Hsp70. Chemistry and Biology, 2015, 22, 87-97.	6.0	49
69	Protein farnesyltransferase: production in Escherichia coli and imrmmoaffinity purification of the heterodimer from Saccharomyces cerevisiae. Gene, 1993, 132, 41-47.	2.2	48
70	Insights into the Conformational Dynamics of the E3 Ubiquitin Ligase CHIP in Complex with Chaperones and E2 Enzymes. Biochemistry, 2010, 49, 2121-2129.	2.5	48
71	From a Ratchet Mechanism to Random Fluctuations Evolution of Hsp90's Mechanochemical Cycle. Journal of Molecular Biology, 2012, 423, 462-471.	4.2	47
72	HIV-Tat Protein Forms Phosphoinositide-dependent Membrane Pores Implicated in Unconventional Protein Secretion. Journal of Biological Chemistry, 2015, 290, 21976-21984.	3.4	46

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73	Structure-Function Analysis of HscC, theEscherichia coli Member of a Novel Subfamily of Specialized Hsp70 Chaperones. Journal of Biological Chemistry, 2002, 277, 41060-41069.	3.4	45
74	Cross-Monomer Substrate Contacts Reposition the Hsp90 N-Terminal Domain and Prime the Chaperone Activity. Journal of Molecular Biology, 2012, 415, 3-15.	4.2	45
75	Intra-molecular pathways of allosteric control in Hsp70s. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170183.	4.0	45
76	Deuteration distribution estimation with improved sequence coverage for HX/MS experiments. Bioinformatics, 2010, 26, 1535-1541.	4.1	44
77	Analysis of subsecond protein dynamics by amide hydrogen exchange and mass spectrometry using a quenched-flow setup. Protein Science, 2005, 14, 626-632.	7.6	43
78	Upregulation of the Cochaperone Mdg1 in Endothelial Cells Is Induced by Stress and during in Vitro Angiogenesis. Experimental Cell Research, 2001, 269, 42-53.	2.6	42
79	YfhJ, a Molecular Adaptor in Iron-Sulfur Cluster Formation or a Frataxin-like Protein?. Structure, 2006, 14, 857-867.	3.3	42
80	Nucleotide exchange factors Fes1 and HspBP1 mimic substrate to release misfolded proteins from Hsp70. Nature Structural and Molecular Biology, 2018, 25, 83-89.	8.2	42
81	Molecular mechanisms of heat shock factor 1 regulation. Trends in Biochemical Sciences, 2022, 47, 218-234.	7.5	42
82	The Hsp90 mosaic: a picture emerges. Nature Structural and Molecular Biology, 2009, 16, 2-6.	8.2	40
83	Lipids Trigger a Conformational Switch That Regulates Signal Recognition Particle (SRP)-mediated Protein Targeting. Journal of Biological Chemistry, 2011, 286, 23489-23497.	3.4	39
84	Hsp90 middle domain phosphorylation initiates a complex conformational program to recruit the ATPase-stimulating cochaperone Aha1. Nature Communications, 2019, 10, 2574.	12.8	39
85	Functional diversity between HSP70 paralogs caused by variable interactions with specific co-chaperones. Journal of Biological Chemistry, 2020, 295, 7301-7316.	3.4	39
86	The in vitro mode of action of bleaching herbicides on the desaturation of 15-cis-phytoene and cis-Î¶-carotene in isolated daffodil chromoplasts. Pesticide Biochemistry and Physiology, 1989, 34, 111-117.	3.6	38
87	Functional Characterization of the Atypical Hsp70 Subunit of Yeast Ribosome-associated Complex. Journal of Biological Chemistry, 2007, 282, 33977-33984.	3.4	38
88	An intrinsic quality-control mechanism ensures unconventional secretion of fibroblast growth factor 2 in a folded conformation. Journal of Cell Science, 2009, 122, 3322-3329.	2.0	38
89	Modeling Hsp70-Mediated Protein Folding. Biophysical Journal, 2006, 91, 496-507.	0.5	37
90	The Hsp70-Chaperone Machines in Bacteria. Frontiers in Molecular Biosciences, 2021, 8, 694012.	3.5	37

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91	Differences in conformational dynamics within the Hsp90 chaperone family reveal mechanistic insights. Frontiers in Molecular Biosciences, 2014, 1, 4.	3.5	36
92	Toxic Activation of an AAA+ Protease by the Antibacterial Drug Cyclomarin A. Cell Chemical Biology, 2019, 26, 1169-1179.e4.	5.2	36
93	Disruption and mapping ofIDI1, the gene for isopentenyl diphosphate isomerase inSaccharomyces cerevisiae. Yeast, 1992, 8, 743-748.	1.7	35
94	Aha, Another Regulator for Hsp90 Chaperones. Molecular Cell, 2002, 10, 1255-1256.	9.7	35
95	Unstructured regions in IRE1Î± specify BiP-mediated destabilisation of the luminal domain dimer and repression of the UPR. ELife, 2019, 8, .	6.0	35
96	Heat Shock Protein 90Î±â€“Dependent Bâ€Cellâ€2â€“Associated Transcription Factor 1 Promotes Hepatocellular Carcinoma Proliferation by Regulating MYC Protoâ€Oncogene câ€MYC mRNA Stability. Hepatology, 2019, 69, 1564-1581.	7.3	34
97	Complexin Suppresses Spontaneous Exocytosis by Capturing the Membrane-Proximal Regions of VAMP2 and SNAP25. Cell Reports, 2020, 32, 107926.	6.4	33
98	Small Molecule Inhibitors Targeting Tec Kinase Block Unconventional Secretion of Fibroblast Growth Factor 2. Journal of Biological Chemistry, 2016, 291, 17787-17803.	3.4	32
99	Hormesis enables cells to handle accumulating toxic metabolites during increased energy flux. Redox Biology, 2017, 13, 674-686.	9.0	31
100	Isoform-Specific Phosphorylation in Human Hsp90Î² Affects Interaction with Clients and the Cochaperone Cdc37. Journal of Molecular Biology, 2017, 429, 732-752.	4.2	30
101	Protein Folding Mediated by Trigger Factor and Hsp70: New Insights from Single-Molecule Approaches. Journal of Molecular Biology, 2018, 430, 438-449.	4.2	29
102	Major Differences in Antigen-Processing Correlate with a Single Arg71â†"Lys Substitution in HLA-DR Molecules Predisposing to Rheumatoid Arthritis and with Their Selective Interactions with 70-kDa Heat Shock Protein Chaperones. Journal of Immunology, 2002, 169, 3015-3020.	0.8	28
103	Pseudo-T-even Bacteriophage RB49 Encodes CocO, a Cochaperonin for GroEL, Which Can Substitute for Escherichia coli's GroES and Bacteriophage T4's Gp31. Journal of Biological Chemistry, 2001, 276, 8720-8726.	3.4	27
104	Rapid desalting of protein samples for on-line microflow electrospray ionization mass spectrometry. Analytical Biochemistry, 2005, 342, 160-162.	2.4	27
105	Multivalent contacts of the Hsp70 Ssb contribute to its architecture on ribosomes and nascent chain interaction. Nature Communications, 2016, 7, 13695.	12.8	25
106	A Multimeric Membrane Protein Reveals 14-3-3 Isoform Specificity in Forward Transport in Yeast. Traffic, 2006, 7, 903-916.	2.7	23
107	The Drosophila mitotic inhibitor FrÃ¼hstart specifically binds to the hydrophobic patch of cyclins. EMBO Reports, 2007, 8, 490-496.	4.5	23
108	Timing the catch. Nature Structural and Molecular Biology, 2004, 11, 6-8.	8.2	22

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109	Automated detection and analysis of bimodal isotope peak distributions in H/D exchange mass spectrometry using HeXicon. International Journal of Mass Spectrometry, 2011, 302, 125-131.	1.5	22
110	The Hsp70 homolog Ssb affects ribosome biogenesis via the TORC1-Sch9 signaling pathway. Nature Communications, 2017, 8, 937.	12.8	22
111	Backbone circularization of Bacillus subtilis family 11 xylanase increases its thermostability and its resistance against aggregation. Molecular BioSystems, 2015, 11, 3231-3243.	2.9	21
112	The oxidation state of the cytoplasmic glutathione redox system does not correlate with replicative lifespan in yeast. Npj Aging and Mechanisms of Disease, 2016, 2, 16028.	4.5	20
113	Large Rotation of the N-terminal Domain of Hsp90 Is Important for Interaction with Some but Not All Client Proteins. Journal of Molecular Biology, 2017, 429, 1406-1423.	4.2	20
114	Nucleotide Exchange Factors for Hsp70 Chaperones. Methods in Molecular Biology, 2011, 787, 83-91.	0.9	20
115	The Hsp40 Jâ€domain modulates Hsp70 conformation and ATPase activity with a semiâ€elliptical spring. Protein Science, 2017, 26, 1838-1851.	7.6	18
116	The Unfolding Story of a Redox Chaperone. Cell, 2012, 148, 843-844.	28.9	17
117	Impaired Interdomain Communication in Mitochondrial Hsp70 Results in the Loss of Inward-directed Translocation Force. Journal of Biological Chemistry, 2009, 284, 2934-2946.	3.4	16
118	The universe of Hsp90. Biomolecular Concepts, 2012, 3, 79-97.	2.2	16
119	Phosphotyrosine Confers Client Specificity to Hsp90. Molecular Cell, 2010, 37, 295-296.	9.7	15
120	Heat shock transcription factor 1 is SUMOylated in the activated trimeric state. Journal of Biological Chemistry, 2021, 296, 100324.	3.4	15
121	A model for handling cell stress. ELife, 2016, 5, .	6.0	15
122	Light-Induced Differences in Conformational Dynamics of the Circadian Clock Regulator VIVID. Journal of Molecular Biology, 2014, 426, 601-610.	4.2	14
123	Structural characterization of an Arf dimer interface: molecular mechanism of Arfâ€dependent membrane scission. FEBS Letters, 2020, 594, 2240-2253.	2.8	12
124	Analyzing Protein Dynamics Using Hydrogen Exchange Mass Spectrometry. Journal of Visualized Experiments, 2013, , .	0.3	9
125	Co-chaperone involvement in knob biogenesis implicates host-derived chaperones in malaria virulence. PLoS Pathogens, 2021, 17, e1009969.	4.7	9
126	Nucleotide Exchange Factors for Hsp70 Chaperones. Methods in Molecular Biology, 2018, 1709, 179-188.	0.9	7

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127	Revisiting vimentin expression in early chick development. Anatomy and Embryology, 2003, 206, 391-397.	1.5	2
128	Chaperones in the Morphogenesis of Viruses. Heat Shock Proteins, 2009, , 85-105.	0.2	1
129	Modeling of Hsp70-Mediated Protein Refolding. Molecular Biology Intelligence Unit, 2013, , 169-176.	0.2	0
130	Conformational Dynamics of the Hsp90 Chaperone Machine. , 0, 2007, .		0