

# Matthias P Mayer

## List of Publications by Year in descending order

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130  
papers

14,627  
citations

25423

59  
h-index

23841

115  
g-index

147  
all docs

147  
docs citations

147  
times ranked

13807  
citing authors

#	ARTICLE	IF	CITATIONS
1	Hsp70 chaperones: Cellular functions and molecular mechanism. Cellular and Molecular Life Sciences, 2005, 62, 670-684.	2.4	2,356
2	The Hsp70 chaperone network. Nature Reviews Molecular Cell Biology, 2019, 20, 665-680.	16.1	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.	3.3	521
4	Hsp70 chaperone dynamics and molecular mechanism. Trends in Biochemical Sciences, 2013, 38, 507-514.	3.7	368
5	Structure and Dynamics of the ATP-Bound Open Conformation of Hsp70 Chaperones. Molecular Cell, 2012, 48, 863-874.	4.5	362
6	Human Hsp70 Disaggregase Reverses Parkinson's-Linked $\alpha$ -Synuclein Amyloid Fibrils. Molecular Cell, 2015, 59, 781-793.	4.5	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 coli $\sigma$ E (RpoE) heat shock transcription factor activity by the RseA, RseB and RseC proteins. Molecular Microbiology, 1997, 24, 355-371.	1.2	327
9	Crucial HSP70 co-chaperone complex unlocks metazoan protein disaggregation. Nature, 2015, 524, 247-251.	13.7	320
10	Gymnastics of Molecular Chaperones. Molecular Cell, 2010, 39, 321-331.	4.5	309
11	Chaperone network in the yeast cytosol: Hsp110 is revealed as an Hsp70 nucleotide exchange factor. EMBO Journal, 2006, 25, 2510-2518.	3.5	243
12	A new set of useful cloning and expression vectors derived from pBlueScript. Gene, 1995, 163, 41-46.	1.0	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.	1.6	202
16	Molecular Mechanism of J-Domain-Triggered ATP Hydrolysis by Hsp70 Chaperones. Molecular Cell, 2018, 69, 227-237.e4.	4.5	201
17	Allosteric Regulation of Hsp70 Chaperones Involves a Conserved Interdomain Linker. Journal of Biological Chemistry, 2006, 281, 38705-38711.	1.6	196
18	Mechanics of Hsp70 chaperones enables differential interaction with client proteins. Nature Structural and Molecular Biology, 2011, 18, 345-351.	3.6	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.	3.3	170
20	The Hsp70â€“Hsp90 Chaperone Cascade in Protein Folding. Trends in Cell Biology, 2019, 29, 164-177.	3.6	170
21	Alternative modes of client binding enable functional plasticity of Hsp70. Nature, 2016, 539, 448-451.	13.7	167
22	Allosteric Regulation of Hsp70 Chaperones by a Proline Switch. Molecular Cell, 2006, 21, 359-367.	4.5	166
23	Functional Analysis of Hsp70 Inhibitors. PLoS ONE, 2013, 8, e78443.	1.1	160
24	Profiling Ssb-Nascent Chain Interactions Reveals Principles of Hsp70-Assisted Folding. Cell, 2017, 170, 298-311.e20.	13.5	154
25	Molecular Basis for Regulation of the Heat Shock Transcription Factor Ć32 by the DnaK and DnaJ Chaperones. Molecular Cell, 2008, 32, 347-358.	4.5	151
26	Hsp90: Breaking the Symmetry. Molecular Cell, 2015, 58, 8-20.	4.5	148
27	Small heat shock proteins sequester misfolding proteins in near-native conformation for cellular protection and efficient refolding. Nature Communications, 2016, 7, 13673.	5.8	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.	1.6	146
29	Hsp110 Is a Nucleotide-activated Exchange Factor for Hsp70. Journal of Biological Chemistry, 2008, 283, 8877-8884.	1.6	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.	1.8	138
32	Investigation of the Interaction between DnaK and DnaJ by Surface Plasmon Resonance Spectroscopy. Journal of Molecular Biology, 1999, 289, 1131-1144.	2.0	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.	3.5	126
35	Hsp90 Breaks the Deadlock of the Hsp70 Chaperone System. Molecular Cell, 2018, 70, 545-552.e9.	4.5	124
36	Molecular Basis for Interactions of the DnaK Chaperone with Substrates. Biological Chemistry, 2000, 381, 877-85.	1.2	111

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37	Amide Hydrogen Exchange Reveals Conformational Changes in Hsp70 Chaperones Important for Allosteric Regulation. <i>Journal of Biological Chemistry</i> , 2006, 281, 16493-16501.	1.6	111
38	Human Heat Shock Protein 70 Enhances Tumor Antigen Presentation through Complex Formation and Intracellular Antigen Delivery without Innate Immune Signaling. <i>Journal of Biological Chemistry</i> , 2007, 282, 31688-31702.	1.6	111
39	Pathways of allosteric regulation in Hsp70 chaperones. <i>Nature Communications</i> , 2015, 6, 8308.	5.8	110
40	Quinone compounds are able to replace molecular oxygen as terminal electron acceptor in phytoene desaturation in chromoplasts of <i>Narcissus pseudonarcissus</i> L.. <i>FEBS Journal</i> , 1990, 191, 359-363.	0.2	109
41	Charged linker sequence modulates eukaryotic heat shock protein 90 (Hsp90) chaperone activity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 2937-2942.	3.3	107
42	Molecular mechanism of thermosensory function of human heat shock transcription factor Hsf1. <i>ELife</i> , 2016, 5, .	2.8	106
43	Dimerization of the Human E3 Ligase CHIP via a Coiled-coil Domain Is Essential for Its Activity. <i>Journal of Biological Chemistry</i> , 2004, 279, 2673-2678.	1.6	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 <i>Biological Chemistry</i> , 2014, 289, 9639-9650.	1.6	105
45	Molecular oxygen and the state of geometric isomerism of intermediates are essential in the carotene desaturation and cyclization reactions in daffodil chromoplasts. <i>FEBS Journal</i> , 1989, 184, 141-150.	0.2	101
46	CHIP participates in protein triage decisions by preferentially ubiquitinating Hsp70-bound substrates. <i>FEBS Journal</i> , 2010, 277, 3353-3367.	2.2	91
47	Dynamics of the regulation of Hsp90 by the co-chaperone Sti1. <i>EMBO Journal</i> , 2012, 31, 1518-1528.	3.5	85
48	Mechanisms of Protein Folding: Molecular Chaperones and Their Application in Biotechnology. <i>ChemBioChem</i> , 2002, 3, 807-814.	1.3	84
49	Posttranscriptional Control of Quorum-Sensing-Dependent Virulence Genes by DksA in <i>Pseudomonas aeruginosa</i> . <i>Journal of Bacteriology</i> , 2003, 185, 3558-3566.	1.0	84
50	Dynamics of Trigger Factor Interaction with Translating Ribosomes. <i>Journal of Biological Chemistry</i> , 2008, 283, 4124-4132.	1.6	82
51	Hsp70- and Hsp90-Mediated Regulation of the Conformation of p53 DNA Binding Domain and p53 Cancer Variants. <i>Molecular Cell</i> , 2019, 74, 831-843.e4.	4.5	80
52	Hsp90 charged-linker truncation reverses the functional consequences of weakened hydrophobic contacts in the N domain. <i>Nature Structural and Molecular Biology</i> , 2009, 16, 1141-1147.	3.6	78
53	The Chaperone Network Connected to Human Ribosome-Associated Complex. <i>Molecular and Cellular Biology</i> , 2011, 31, 1160-1173.	1.1	77
54	Mechanism of substrate recognition by Hsp70 chaperones. <i>Biochemical Society Transactions</i> , 2004, 32, 617-621.	1.6	72

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55	Bclaf1 promotes angiogenesis by regulating HIF-1 $\alpha$ transcription in hepatocellular carcinoma. <i>Oncogene</i> , 2019, 38, 1845-1859.	2.6	71
56	Targeting heat shock protein 90 with non-quinone inhibitors: A novel chemotherapeutic approach in human hepatocellular carcinoma. <i>Hepatology</i> , 2009, 50, 102-112.	3.6	68
57	Modulation of substrate specificity of the DnaK chaperone by alteration of a hydrophobic arch. <i>Journal of Molecular Biology</i> , 2000, 304, 245-251.	2.0	65
58	Insights into the molecular mechanism of allostery in Hsp70s. <i>Frontiers in Molecular Biosciences</i> , 2015, 2, 58.	1.6	64
59	Influence of GrpE on DnaK-Substrate Interactions. <i>Journal of Biological Chemistry</i> , 2004, 279, 27957-27964.	1.6	62
60	Human and yeast Hsp110 chaperones exhibit functional differences. <i>FEBS Letters</i> , 2006, 580, 168-174.	1.3	62
61	Dynamic enzyme docking to the ribosome coordinates N-terminal processing with polypeptide folding. <i>Nature Structural and Molecular Biology</i> , 2013, 20, 843-850.	3.6	58
62	A prion-like domain in Hsp42 drives chaperone-facilitated aggregation of misfolded proteins. <i>Journal of Cell Biology</i> , 2018, 217, 1269-1285.	2.3	57
63	Feedback regulation of heat shock factor 1 (Hsf1) activity by Hsp70 $\alpha$ -mediated trimer unzipping and dissociation from <scp>DNA</scp>. <i>EMBO Journal</i> , 2020, 39, e104096.	3.5	55
64	c-Abl Mediated Tyrosine Phosphorylation of Aha1 Activates Its Co-chaperone Function in Cancer Cells. <i>Cell Reports</i> , 2015, 12, 1006-1018.	2.9	54
65	Asna1/TRC40-mediated membrane insertion of tail-anchored proteins. <i>Journal of Cell Science</i> , 2010, 123, 1522-1530.	1.2	53
66	Chaperone Action at the Single-Molecule Level. <i>Chemical Reviews</i> , 2014, 114, 660-676.	23.0	51
67	Mapping Temperature-induced Conformational Changes in the Escherichia coli Heat Shock Transcription Factor $\sigma$ 32 by Amide Hydrogen Exchange. <i>Journal of Biological Chemistry</i> , 2003, 278, 51415-51421.	1.6	50
68	The Novolactone Natural Product Disrupts the Allosteric Regulation of Hsp70. <i>Chemistry and Biology</i> , 2015, 22, 87-97.	6.2	49
69	Protein farnesyltransferase: production in Escherichia coli and immoaffinity purification of the heterodimer from Saccharomyces cerevisiae. <i>Gene</i> , 1993, 132, 41-47.	1.0	48
70	Insights into the Conformational Dynamics of the E3 Ubiquitin Ligase CHIP in Complex with Chaperones and E2 Enzymes. <i>Biochemistry</i> , 2010, 49, 2121-2129.	1.2	48
71	From a Ratchet Mechanism to Random Fluctuations Evolution of Hsp90's Mechanochemical Cycle. <i>Journal of Molecular Biology</i> , 2012, 423, 462-471.	2.0	47
72	HIV-Tat Protein Forms Phosphoinositide-dependent Membrane Pores Implicated in Unconventional Protein Secretion. <i>Journal of Biological Chemistry</i> , 2015, 290, 21976-21984.	1.6	46

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73	Structure-Function Analysis of HscC, the Escherichia coli Member of a Novel Subfamily of Specialized Hsp70 Chaperones. <i>Journal of Biological Chemistry</i> , 2002, 277, 41060-41069.	1.6	45
74	Cross-Monomer Substrate Contacts Reposition the Hsp90 N-Terminal Domain and Prime the Chaperone Activity. <i>Journal of Molecular Biology</i> , 2012, 415, 3-15.	2.0	45
75	Intra-molecular pathways of allosteric control in Hsp70s. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2018, 373, 20170183.	1.8	45
76	Deuterium distribution estimation with improved sequence coverage for HX/MS experiments. <i>Bioinformatics</i> , 2010, 26, 1535-1541.	1.8	44
77	Analysis of subsecond protein dynamics by amide hydrogen exchange and mass spectrometry using a quenched-flow setup. <i>Protein Science</i> , 2005, 14, 626-632.	3.1	43
78	Upregulation of the Cochaperone Mdg1 in Endothelial Cells Is Induced by Stress and during in Vitro Angiogenesis. <i>Experimental Cell Research</i> , 2001, 269, 42-53.	1.2	42
79	Yfhj, a Molecular Adaptor in Iron-Sulfur Cluster Formation or a Frataxin-like Protein?. <i>Structure</i> , 2006, 14, 857-867.	1.6	42
80	Nucleotide exchange factors Fes1 and HspBP1 mimic substrate to release misfolded proteins from Hsp70. <i>Nature Structural and Molecular Biology</i> , 2018, 25, 83-89.	3.6	42
81	Molecular mechanisms of heat shock factor 1 regulation. <i>Trends in Biochemical Sciences</i> , 2022, 47, 218-234.	3.7	42
82	The Hsp90 mosaic: a picture emerges. <i>Nature Structural and Molecular Biology</i> , 2009, 16, 2-6.	3.6	40
83	Lipids Trigger a Conformational Switch That Regulates Signal Recognition Particle (SRP)-mediated Protein Targeting. <i>Journal of Biological Chemistry</i> , 2011, 286, 23489-23497.	1.6	39
84	Hsp90 middle domain phosphorylation initiates a complex conformational program to recruit the ATPase-stimulating cochaperone Aha1. <i>Nature Communications</i> , 2019, 10, 2574.	5.8	39
85	Functional diversity between HSP70 paralogs caused by variable interactions with specific co-chaperones. <i>Journal of Biological Chemistry</i> , 2020, 295, 7301-7316.	1.6	39
86	The in vitro mode of action of bleaching herbicides on the desaturation of 15-cis-phytoene and cis- $\beta$ -carotene in isolated daffodil chromoplasts. <i>Pesticide Biochemistry and Physiology</i> , 1989, 34, 111-117.	1.6	38
87	Functional Characterization of the Atypical Hsp70 Subunit of Yeast Ribosome-associated Complex. <i>Journal of Biological Chemistry</i> , 2007, 282, 33977-33984.	1.6	38
88	An intrinsic quality-control mechanism ensures unconventional secretion of fibroblast growth factor 2 in a folded conformation. <i>Journal of Cell Science</i> , 2009, 122, 3322-3329.	1.2	38
89	Modeling Hsp70-Mediated Protein Folding. <i>Biophysical Journal</i> , 2006, 91, 496-507.	0.2	37
90	The Hsp70-Chaperone Machines in Bacteria. <i>Frontiers in Molecular Biosciences</i> , 2021, 8, 694012.	1.6	37

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91	Differences in conformational dynamics within the Hsp90 chaperone family reveal mechanistic insights. <i>Frontiers in Molecular Biosciences</i> , 2014, 1, 4.	1.6	36
92	Toxic Activation of an AAA+ Protease by the Antibacterial Drug Cyclomarin A. <i>Cell Chemical Biology</i> , 2019, 26, 1169-1179.e4.	2.5	36
93	Disruption and mapping of <i>DI1</i> , the gene for isopentenyl diphosphate isomerase in <i>Saccharomyces cerevisiae</i> . <i>Yeast</i> , 1992, 8, 743-748.	0.8	35
94	Aha, Another Regulator for Hsp90 Chaperones. <i>Molecular Cell</i> , 2002, 10, 1255-1256.	4.5	35
95	Unstructured regions in IRE1 $\pm$ specify BiP-mediated destabilisation of the luminal domain dimer and repression of the UPR. <i>ELife</i> , 2019, 8, .	2.8	35
96	Heat Shock Protein 90 $\pm$ â€œDependent Bâ€œCellâ€œAssociated Transcription Factor 1 Promotes Hepatocellular Carcinoma Proliferation by Regulating MYC Protoâ€œOncogene câ€œMYC mRNA Stability. <i>Hepatology</i> , 2019, 69, 1564-1581.	3.6	34
97	Complexin Suppresses Spontaneous Exocytosis by Capturing the Membrane-Proximal Regions of VAMP2 and SNAP25. <i>Cell Reports</i> , 2020, 32, 107926.	2.9	33
98	Small Molecule Inhibitors Targeting Tec Kinase Block Unconventional Secretion of Fibroblast Growth Factor 2. <i>Journal of Biological Chemistry</i> , 2016, 291, 17787-17803.	1.6	32
99	Hormesis enables cells to handle accumulating toxic metabolites during increased energy flux. <i>Redox Biology</i> , 2017, 13, 674-686.	3.9	31
100	Isoform-Specific Phosphorylation in Human Hsp90 $\pm$ Affects Interaction with Clients and the Cochaperone Cdc37. <i>Journal of Molecular Biology</i> , 2017, 429, 732-752.	2.0	30
101	Protein Folding Mediated by Trigger Factor and Hsp70: New Insights from Single-Molecule Approaches. <i>Journal of Molecular Biology</i> , 2018, 430, 438-449.	2.0	29
102	Major Differences in Antigen-Processing Correlate with a Single Arg71 $\pm$ â€œLys Substitution in HLA-DR Molecules Predisposing to Rheumatoid Arthritis and with Their Selective Interactions with 70-kDa Heat Shock Protein Chaperones. <i>Journal of Immunology</i> , 2002, 169, 3015-3020.	0.4	28
103	Pseudo-T-even Bacteriophage RB49 Encodes CocO, a Cochaperonin for GroEL, Which Can Substitute for <i>Escherichia coli</i> 's GroES and Bacteriophage T4's Gp31. <i>Journal of Biological Chemistry</i> , 2001, 276, 8720-8726.	1.6	27
104	Rapid desalting of protein samples for on-line microflow electrospray ionization mass spectrometry. <i>Analytical Biochemistry</i> , 2005, 342, 160-162.	1.1	27
105	Multivalent contacts of the Hsp70 Ssb contribute to its architecture on ribosomes and nascent chain interaction. <i>Nature Communications</i> , 2016, 7, 13695.	5.8	25
106	A Multimeric Membrane Protein Reveals 14-3-3 Isoform Specificity in Forward Transport in Yeast. <i>Traffic</i> , 2006, 7, 903-916.	1.3	23
107	The <i>Drosophila</i> mitotic inhibitor Fr $\frac{1}{4}$ hstart specifically binds to the hydrophobic patch of cyclins. <i>EMBO Reports</i> , 2007, 8, 490-496.	2.0	23
108	Timing the catch. <i>Nature Structural and Molecular Biology</i> , 2004, 11, 6-8.	3.6	22

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109	Automated detection and analysis of bimodal isotope peak distributions in H/D exchange mass spectrometry using HeXicon. <i>International Journal of Mass Spectrometry</i> , 2011, 302, 125-131.	0.7	22
110	The Hsp70 homolog Ssb affects ribosome biogenesis via the TORC1-Sch9 signaling pathway. <i>Nature Communications</i> , 2017, 8, 937.	5.8	22
111	Backbone circularization of <i>Bacillus subtilis</i> family 11 xylanase increases its thermostability and its resistance against aggregation. <i>Molecular BioSystems</i> , 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. <i>Npj Aging and Mechanisms of Disease</i> , 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. <i>Journal of Molecular Biology</i> , 2017, 429, 1406-1423.	2.0	20
114	Nucleotide Exchange Factors for Hsp70 Chaperones. <i>Methods in Molecular Biology</i> , 2011, 787, 83-91.	0.4	20
115	The Hsp40 $\alpha$ -domain modulates Hsp70 conformation and ATPase activity with a semi-elliptical spring. <i>Protein Science</i> , 2017, 26, 1838-1851.	3.1	18
116	The Unfolding Story of a Redox Chaperone. <i>Cell</i> , 2012, 148, 843-844.	13.5	17
117	Impaired Interdomain Communication in Mitochondrial Hsp70 Results in the Loss of Inward-directed Translocation Force. <i>Journal of Biological Chemistry</i> , 2009, 284, 2934-2946.	1.6	16
118	The universe of Hsp90. <i>Biomolecular Concepts</i> , 2012, 3, 79-97.	1.0	16
119	Phosphotyrosine Confers Client Specificity to Hsp90. <i>Molecular Cell</i> , 2010, 37, 295-296.	4.5	15
120	Heat shock transcription factor 1 is SUMOylated in the activated trimeric state. <i>Journal of Biological Chemistry</i> , 2021, 296, 100324.	1.6	15
121	A model for handling cell stress. <i>ELife</i> , 2016, 5, .	2.8	15
122	Light-Induced Differences in Conformational Dynamics of the Circadian Clock Regulator VIVID. <i>Journal of Molecular Biology</i> , 2014, 426, 601-610.	2.0	14
123	Structural characterization of an Arf dimer interface: molecular mechanism of Arf-dependent membrane scission. <i>FEBS Letters</i> , 2020, 594, 2240-2253.	1.3	12
124	Analyzing Protein Dynamics Using Hydrogen Exchange Mass Spectrometry. <i>Journal of Visualized Experiments</i> , 2013, , .	0.2	9
125	Co-chaperone involvement in knob biogenesis implicates host-derived chaperones in malaria virulence. <i>PLoS Pathogens</i> , 2021, 17, e1009969.	2.1	9
126	Nucleotide Exchange Factors for Hsp70 Chaperones. <i>Methods in Molecular Biology</i> , 2018, 1709, 179-188.	0.4	7



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