Johannes Buchner

List of Publications by Citations

260 papers	22,096 citations	83 h-index	142 g-index
272 ext. papers	24,791 ext. citations	8.9 avg, IF	7.11 L-index

#	Paper	IF	Citations
260	The heat shock response: life on the verge of death. *Molecular Cell*, **2010**, 40, 253-66	17.6	1146
259	The HSP90 chaperone machinery. *Nature Reviews Molecular Cell Biology*, **2017**, 18, 345-360	48.7	652
258	Some like it hot: the structure and function of small heat-shock proteins. *Nature Structural and Molecular Biology*, **2005**, 12, 842-6	17.6	639
257	Hsp90 & Co. - a holding for folding. *Trends in Biochemical Sciences*, **1999**, 24, 136-41	10.3	573
256	Regulation of Hsp27 oligomerization, chaperone function, and protective activity against oxidative stress/tumor necrosis factor alpha by phosphorylation. *Journal of Biological Chemistry*, **1999**, 274, 18947-56	5.4	567
255	Hsp90: chaperoning signal transduction. *Journal of Cellular Physiology*, **2001**, 188, 281-90	7	493
254	GroE facilitates refolding of citrate synthase by suppressing aggregation. *Biochemistry*, **1991**, 30, 1586-91	3.2	491
253	Hsp90 chaperones protein folding in vitro. *Nature*, **1992**, 358, 169-70	50.4	468
252	The Hsp90 chaperone machinery. *Journal of Biological Chemistry*, **2008**, 283, 18473-7	5.4	421
251	Reduction of disulphide bonds unmasks potent antimicrobial activity of human β-defensin 1. *Nature* , **2011**, 469, 419-23	50.4	370
250	Supervising the fold: functional principles of molecular chaperones. *FASEB Journal*, **1996**, 10, 10-19	0.9	349
249	The Hsp90 chaperone machinery: conformational dynamics and regulation by co-chaperones. *Biochimica Et Biophysica Acta - Molecular Cell Research*, **2012**, 1823, 624-35	4.9	340
248	Assisting spontaneity: the role of Hsp90 and small Hsps as molecular chaperones. *Trends in Biochemical Sciences*, **1994**, 19, 205-11	10.3	339
247	A method for increasing the yield of properly folded recombinant fusion proteins: single-chain immunotoxins from renaturation of bacterial inclusion bodies. *Analytical Biochemistry*, **1992**, 205, 263-70	3.1	332
246	Molecular chaperones--cellular machines for protein folding. *Angewandte Chemie - International Edition*, **2002**, 41, 1098-113	16.4	322
245	The small heat-shock protein IbpB from Escherichia coli stabilizes stress-denatured proteins for subsequent refolding by a multichaperone network. *Journal of Biological Chemistry*, **1998**, 273, 11032-7	5.4	275
244	Transient interaction of Hsp90 with early unfolding intermediates of citrate synthase. Implications for heat shock in vivo. *Journal of Biological Chemistry*, **1995**, 270, 7288-94	5.4	274

243	Structure, function and regulation of the hsp90 machinery. *Biomedical Journal*, **2013**, 36, 106-17	7.1	268
242	Protein aggregation in vitro and in vivo: a quantitative model of the kinetic competition between folding and aggregation. *Nature Biotechnology*, **1991**, 9, 825-9	44.5	265
241	Dissection of the ATP-induced conformational cycle of the molecular chaperone Hsp90. *Nature Structural and Molecular Biology*, **2009**, 16, 287-93	17.6	263
240	Renaturation, purification and characterization of recombinant Fab-fragments produced in Escherichia coli. *Nature Biotechnology*, **1991**, 9, 157-62	44.5	255
239	The chaperone Hsp90: changing partners for demanding clients. *Trends in Biochemical Sciences*, **2013**, 38, 253-62	10.3	218
238	p53 contains large unstructured regions in its native state. *Journal of Molecular Biology*, **2002**, 322, 917-27	6.5	214
237	The N-terminal domain of p53 is natively unfolded. *Journal of Molecular Biology*, **2003**, 332, 1131-41	6.5	203
236	The large conformational changes of Hsp90 are only weakly coupled to ATP hydrolysis. *Nature Structural and Molecular Biology*, **2009**, 16, 281-6	17.6	196
235	Asymmetric activation of the hsp90 dimer by its cochaperone aha1. *Molecular Cell*, **2010**, 37, 344-54	17.6	193
234	Independent evolution of the core domain and its flanking sequences in small heat shock proteins. *FASEB Journal*, **2010**, 24, 3633-42	0.9	180
233	Analysis of chaperone function using citrate synthase as nonnative substrate protein. *Methods in Enzymology*, **1998**, 290, 323-38	1.7	179
232	An unfolded CH1 domain controls the assembly and secretion of IgG antibodies. *Molecular Cell*, **2009**, 34, 569-79	17.6	170
231	Disassembling protein aggregates in the yeast cytosol. The cooperation of Hsp26 with Ssa1 and Hsp104. *Journal of Biological Chemistry*, **2005**, 280, 23861-8	5.4	167
230	The architecture of functional modules in the Hsp90 co-chaperone Sti1/Hop. *EMBO Journal*, **2012**, 31, 1506-17	13	161
229	Coordinated ATP hydrolysis by the Hsp90 dimer. *Journal of Biological Chemistry*, **2001**, 276, 33689-96	5.4	157
228	Hsp42 is the general small heat shock protein in the cytosol of Saccharomyces cerevisiae. *EMBO Journal*, **2004**, 23, 638-49	13	155
227	Sti1 is a non-competitive inhibitor of the Hsp90 ATPase. Binding prevents the N-terminal dimerization reaction during the atpase cycle. *Journal of Biological Chemistry*, **2003**, 278, 10328-33	5.4	151
226	Functional analysis of the Hsp90-associated human peptidyl prolyl cis/trans isomerases FKBP51, FKBP52 and Cyp40. *Journal of Molecular Biology*, **2001**, 308, 795-806	6.5	151

225	Alternatively folded states of an immunoglobulin. *Biochemistry*, **1991**, 30, 6922-9	3.2	151
224	The Hsp90 complex--a super-chaperone machine as a novel drug target. *Biochemical Pharmacology*, **1998**, 56, 675-82	6	150
223	The Hsp90 cochaperone, FKBP51, increases Tau stability and polymerizes microtubules. *Journal of Neuroscience*, **2010**, 30, 591-9	6.6	146
222	ThT 101: a primer on the use of thioflavin T to investigate amyloid formation. *Amyloid: the International Journal of Experimental and Clinical Investigation: the Official Journal of the International Society of Amyloidosis*, **2017**, 24, 1-16	2.7	139
221	The dynamics of Hsp25 quaternary structure. Structure and function of different oligomeric species. *Journal of Biological Chemistry*, **1999**, 274, 14867-74	5.4	132
220	Analysis of the interaction of small heat shock proteins with unfolding proteins. *Journal of Biological Chemistry*, **2003**, 278, 18015-21	5.4	131
219	Hsp90 is regulated by a switch point in the C-terminal domain. *EMBO Reports*, **2009**, 10, 1147-53	6.5	129
218	How antibodies fold. *Trends in Biochemical Sciences*, **2010**, 35, 189-98	10.3	129
217	The phosphatase Ppt1 is a dedicated regulator of the molecular chaperone Hsp90. *EMBO Journal*, **2006**, 25, 367-76	13	127
216	Regulated structural transitions unleash the chaperone activity of **B**-crystallin. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, E3780-9	11.5	126
215	Substrate discrimination of the chaperone BiP by autonomous and cochaperone-regulated conformational transitions. *Nature Structural and Molecular Biology*, **2011**, 18, 150-8	17.6	125
214	The Co-chaperone Sba1 connects the ATPase reaction of Hsp90 to the progression of the chaperone cycle. *Journal of Molecular Biology*, **2004**, 342, 1403-13	6.5	125
213	Hsp12 is an intrinsically unstructured stress protein that folds upon membrane association and modulates membrane function. *Molecular Cell*, **2010**, 39, 507-20	17.6	123
212	Noncatalytic role of the FKBP52 peptidyl-prolyl isomerase domain in the regulation of steroid hormone signaling. *Molecular and Cellular Biology*, **2007**, 27, 8658-69	4.8	119
211	Multiple molecular architectures of the eye lens chaperone **B**-crystallin elucidated by a triple hybrid approach. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 20491-6	11.5	118
210	Substrate transfer from the chaperone Hsp70 to Hsp90. *Journal of Molecular Biology*, **2006**, 356, 802-11	6.5	118
209	Mixed Hsp90-cochaperone complexes are important for the progression of the reaction cycle. *Nature Structural and Molecular Biology*, **2011**, 18, 61-6	17.6	116
208	Hsp90 regulates the activity of wild type p53 under physiological and elevated temperatures. *Journal of Biological Chemistry*, **2004**, 279, 48846-54	5.4	114

207	Reconstitution of a heat shock effect in vitro: influence of GroE on the thermal aggregation of alpha-glucosidase from yeast. *Biochemistry*, **1991**, 30, 11609-14	3.2	114
206	The charged linker region is an important regulator of Hsp90 function. *Journal of Biological Chemistry*, **2009**, 284, 22559-67	5.4	112
205	C-terminal regions of Hsp90 are important for trapping the nucleotide during the ATPase cycle. *Journal of Molecular Biology*, **2000**, 303, 583-92	6.5	110
204	Modulation of the Hsp90 chaperone cycle by a stringent client protein. *Molecular Cell*, **2014**, 53, 941-53	17.6	108
203	The prion curing agent guanidinium chloride specifically inhibits ATP hydrolysis by Hsp104. *Journal of Biological Chemistry*, **2004**, 279, 7378-83	5.4	106
202	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, 31688-702	5.4	105
201	Sti1 is a novel activator of the Ssa proteins. *Journal of Biological Chemistry*, **2003**, 278, 25970-6	5.4	105
200	Conserved conformational changes in the ATPase cycle of human Hsp90. *Journal of Biological Chemistry*, **2008**, 283, 17757-65	5.4	104
199	IspH protein of Escherichia coli: studies on iron-sulfur cluster implementation and catalysis. *Journal of the American Chemical Society*, **2004**, 126, 12847-55	16.4	104
198	Analysis of the regulation of the molecular chaperone Hsp26 by temperature-induced dissociation: the N-terminal domail is important for oligomer assembly and the binding of unfolding proteins. *Journal of Biological Chemistry*, **2004**, 279, 11222-8	5.4	103
197	The eye lens chaperone alpha-crystallin forms defined globular assemblies. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 13272-7	11.5	102
196	The growing world of small heat shock proteins: from structure to functions. *Cell Stress and Chaperones*, **2017**, 22, 601-611	4	101
195	The chaperone B-crystallin uses different interfaces to capture an amorphous and an amyloid client. *Nature Structural and Molecular Biology*, **2015**, 22, 898-905	17.6	99
194	Structural analysis of the interaction between Hsp90 and the tumor suppressor protein p53. *Nature Structural and Molecular Biology*, **2011**, 18, 1086-93	17.6	97
193	Conformational switching of the molecular chaperone Hsp90 via regulated phosphorylation. *Molecular Cell*, **2012**, 45, 517-28	17.6	96
192	Mouse Hsp25, a small shock protein. The role of its C-terminal extension in oligomerization and chaperone action. *FEBS Journal*, **2000**, 267, 1923-32		95
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190	Small heat shock proteins: Simplicity meets complexity. *Journal of Biological Chemistry*, **2019**, 294, 2121-2132	5.4	93

189	Evolution of Escherichia coli for growth at high temperatures. *Journal of Biological Chemistry*, **2010**, 285, 19029-34	5.4	92
188	ATP-binding properties of human Hsp90. *Journal of Biological Chemistry*, **1997**, 272, 18608-13	5.4	91
187	An unstructured C-terminal region of the Hsp90 co-chaperone p23 is important for its chaperone function. *Journal of Molecular Biology*, **1999**, 293, 685-91	6.5	90
186	Integration of the accelerator Aha1 in the Hsp90 co-chaperone cycle. *Nature Structural and Molecular Biology*, **2013**, 20, 326-31	17.6	89
185	Cpr6 and Cpr7, two closely related Hsp90-associated immunophilins from Saccharomyces cerevisiae, differ in their functional properties. *Journal of Biological Chemistry*, **2000**, 275, 34140-6	5.4	89
184	Structure, Function, and Regulation of the Hsp90 Machinery. *Cold Spring Harbor Perspectives in Biology*, **2019**, 11,	10.2	88
183	Activation of the chaperone Hsp26 is controlled by the rearrangement of its thermosensor domain. *Molecular Cell*, **2008**, 29, 207-16	17.6	86
182	p53--a natural cancer killer: structural insights and therapeutic concepts. *Angewandte Chemie - International Edition*, **2006**, 45, 6440-60	16.4	85
181	A domain in the N-terminal part of Hsp26 is essential for chaperone function and oligomerization. *Journal of Molecular Biology*, **2004**, 343, 445-55	6.5	85
180	The Chaperone Activity and Substrate Spectrum of Human Small Heat Shock Proteins. *Journal of Biological Chemistry*, **2017**, 292, 672-684	5.4	84
179	Structural characterization of the substrate transfer mechanism in Hsp70/Hsp90 folding machinery mediated by Hop. *Nature Communications*, **2014**, 5, 5484	17.4	84
178	Alternative bacterial two-component small heat shock protein systems. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 20407-12	11.5	83
177	The ATPase cycle of the endoplasmic chaperone Grp94. *Journal of Biological Chemistry*, **2007**, 282, 35612-20	5.4	83
176	Assessment of the ATP binding properties of Hsp90. *Journal of Biological Chemistry*, **1996**, 271, 10035-41	5.4	82
175	BiP and PDI cooperate in the oxidative folding of antibodies in vitro. *Journal of Biological Chemistry*, **2000**, 275, 29421-5	5.4	82
174	The ATPase cycle of the mitochondrial Hsp90 analog Trap1. *Journal of Biological Chemistry*, **2008**, 283, 11677-88	5.4	81
173	Functional characterization of the higher plant chloroplast chaperonins. *Journal of Biological Chemistry*, **1995**, 270, 18158-64	5.4	79
172	The yeast Hsp110 Sse1 functionally interacts with the Hsp70 chaperones Ssa and Ssb. *Journal of Biological Chemistry*, **2005**, 280, 41262-9	5.4	78

171	Folding and association of the antibody domain CH3: prolyl isomerization preceeds dimerization. *Journal of Molecular Biology*, **1999**, 293, 67-79	6.5	78
170	Multiple distinct assemblies reveal conformational flexibility in the small heat shock protein Hsp26. *Structure*, **2006**, 14, 1197-204	5.2	77
169	Membrane translocation of binary actin-ADP-ribosylating toxins from Clostridium difficile and Clostridium perfringens is facilitated by cyclophilin A and Hsp90. *Infection and Immunity*, **2011**, 79, 3913-21	3.7	74
168	Structure of the murine unglycosylated IgG1 Fc fragment. *Journal of Molecular Biology*, **2009**, 391, 599-608	6.5	74
167	Review: a structural view of the GroE chaperone cycle. *Journal of Structural Biology*, **2001**, 135, 95-103	3.4	74
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165	The Plasticity of the Hsp90 Co-chaperone System. *Molecular Cell*, **2017**, 67, 947-961.e5	17.6	73
164	The activation mechanism of Hsp26 does not require dissociation of the oligomer. *Journal of Molecular Biology*, **2005**, 350, 1083-93	6.5	73
163	Structural organization of procaryotic and eucaryotic Hsp90. Influence of divalent cations on structure and function. *Journal of Biological Chemistry*, **1995**, 270, 14412-9	5.4	71
162	NMR chemical shift perturbation study of the N-terminal domain of Hsp90 upon binding of ADP, AMP-PNP, geldanamycin, and radicicol. *ChemBioChem*, **2003**, 4, 870-7	3.8	70
161	The charged linker of the molecular chaperone Hsp90 modulates domain contacts and biological function. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 17881-6	11.5	68
160	Structure and function of β-crystallins: Traversing from in vitro to in vivo. *Biochimica Et Biophysica Acta - General Subjects*, **2016**, 1860, 149-66	4	66
159	Hsp90 regulates the dynamics of its cochaperone Sti1 and the transfer of Hsp70 between modules. *Nature Communications*, **2015**, 6, 6655	17.4	66
158	Folding mechanism of the CH2 antibody domain. *Journal of Molecular Biology*, **2004**, 344, 107-18	6.5	66
157	Hsp90 charged-linker truncation reverses the functional consequences of weakened hydrophobic contacts in the N domain. *Nature Structural and Molecular Biology*, **2009**, 16, 1141-7	17.6	64
156	Conformational processing of oncogenic v-Src kinase by the molecular chaperone Hsp90. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E3189-98	11.5	62
155	Association of antibody chains at different stages of folding: prolyl isomerization occurs after formation of quaternary structure. *Journal of Molecular Biology*, **1995**, 248, 190-201	6.5	62
154	Intrinsic inhibition of the Hsp90 ATPase activity. *Journal of Biological Chemistry*, **2006**, 281, 11301-11	5.4	61

153	Dynamics of the GroEL-protein complex: effects of nucleotides and folding mutants. *Journal of Molecular Biology*, **1996**, 258, 74-87	6.5	58
152	Multi-Angle Effector Function Analysis of Human Monoclonal IgG Glycovariants. *PLoS ONE*, **2015**, 10, e0143520	3.7	58
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150	N-terminal residues regulate the catalytic efficiency of the Hsp90 ATPase cycle. *Journal of Biological Chemistry*, **2002**, 277, 44905-10	5.4	56
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146	Folding and assembly of the large molecular machine Hsp90 studied in single-molecule experiments. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 1232-7	11.5	51
145	Renaturation of a single-chain immunotoxin facilitated by chaperones and protein disulfide isomerase. *Nature Biotechnology*, **1992**, 10, 682-5	44.5	51
144	Dissection of the contribution of individual domains to the ATPase mechanism of Hsp90. *Journal of Biological Chemistry*, **2003**, 278, 39303-10	5.4	50
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142	The structural analysis of shark IgNAR antibodies reveals evolutionary principles of immunoglobulins. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 8155-60	11.5	49
141	Structural dynamics of archaeal small heat shock proteins. *Journal of Molecular Biology*, **2008**, 378, 362-74	4.5	49
140	FK506-binding protein 52 phosphorylation: a potential mechanism for regulating steroid hormone receptor activity. *Molecular Endocrinology*, **2007**, 21, 2956-67		49
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137	Folding and oxidation of the antibody domain C(H)3. *Journal of Molecular Biology*, **2002**, 319, 1267-77	6.5	48
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135	Posttranslational modification and conformational state of heat shock protein 90 differentially affect binding of chemically diverse small molecule inhibitors. *Oncotarget*, **2013**, 4, 1065-74	3.3	46
134	Allosteric Regulation Points Control the Conformational Dynamics of the Molecular Chaperone Hsp90. *Journal of Molecular Biology*, **2016**, 428, 4559-4571	6.5	45
133	BiP-binding sequences in HIV gp160. Implications for the binding specificity of bip. *Journal of Biological Chemistry*, **1999**, 274, 29850-7	5.4	44
132	The small heat shock protein Hsp27 affects assembly dynamics and structure of keratin intermediate filament networks. *Biophysical Journal*, **2013**, 105, 1778-85	2.9	43
131	Cns1 is an activator of the Ssa1 ATPase activity. *Journal of Biological Chemistry*, **2004**, 279, 23267-73	5.4	42
130	Cooperative binding of p53 to DNA: regulation by protein-protein interactions through a double salt bridge. *Angewandte Chemie - International Edition*, **2005**, 44, 5247-51	16.4	42
129	The alternatively folded state of the antibody C(H)3 domain. *Journal of Molecular Biology*, **2001**, 309, 1077-85	6.5	41
128	The cytosolic cochaperone Sti1 is relevant for mitochondrial biogenesis and morphology. *FEBS Journal*, **2016**, 283, 3338-52	5.7	40
127	Refolding and structural characterization of the human p53 tumor suppressor protein. *Biophysical Chemistry*, **2002**, 96, 243-57	3.5	40
126	Modulation of the ATPase cycle of BiP by peptides and proteins. *Journal of Molecular Biology*, **2003**, 330, 137-44	6.5	40
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124	Stabilization of proteins and peptides in diagnostic immunological assays by the molecular chaperone Hsp25. *Analytical Biochemistry*, **1998**, 259, 218-25	3.1	39
123	The state of the art of chemical biology. *ChemBioChem*, **2009**, 10, 16-29	3.8	38
122	Oncogenic mutations reduce the stability of SRC kinase. *Journal of Molecular Biology*, **2004**, 344, 281-91	6.5	38
121	Coordinated Conformational Processing of the Tumor Suppressor Protein p53 by the Hsp70 and Hsp90 Chaperone Machineries. *Molecular Cell*, **2019**, 74, 816-830.e7	17.6	37
120	The Chaperone Activity of the Developmental Small Heat Shock Protein Sip1 Is Regulated by pH-Dependent Conformational Changes. *Molecular Cell*, **2015**, 58, 1067-78	17.6	37
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116	Influence of the internal disulfide bridge on the folding pathway of the CL antibody domain. *Journal of Molecular Biology*, **2007**, 365, 1232-44	6.5	33
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109	BiPPred: Combined sequence- and structure-based prediction of peptide binding to the Hsp70 chaperone BiP. *Proteins: Structure, Function and Bioinformatics*, **2016**, 84, 1390-407	4.2	32
108	Purification and characterization of small heat shock proteins. *Methods in Enzymology*, **1998**, 290, 339-49	1.7	31
107	A chemical compound inhibiting the Aha1-Hsp90 chaperone complex. *Journal of Biological Chemistry*, **2017**, 292, 17073-17083	5.4	30
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103	Catalysis, commitment and encapsulation during GroE-mediated folding. *Journal of Molecular Biology*, **1999**, 289, 1075-92	6.5	28
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91	Conformational dynamics modulate the catalytic activity of the molecular chaperone Hsp90. *Nature Communications*, **2020**, 11, 1410	17.4	24
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83	Structural and mechanical hierarchies in the alpha-crystallin domain dimer of the hyperthermophilic small heat shock protein Hsp16.5. *Journal of Molecular Biology*, **2010**, 400, 1046-56	6.5	21
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