Heath Ecroyd

List of Publications by Year
in descending order

93 papers	5,460 citations	70961 41 h-index	85405 71 g-index
101 all docs	101 docs citations	101 times ranked	7017 citing authors

#	Article	IF	Citations
1	The thioflavin T fluorescence assay for amyloid fibril detection can be biased by the presence of exogenous compounds. FEBS Journal, 2009, 276, 5960-5972.	2.2	473
2	Invited review: Caseins and the casein micelle: Their biological functions, structures, and behavior in foods. Journal of Dairy Science, 2013, 96, 6127-6146.	1.4	338
3	Crystallin proteins and amyloid fibrils. Cellular and Molecular Life Sciences, 2009, 66, 62-81.	2.4	220
4	The structured core domain of Î±B-crystallin can prevent amyloid fibrillation and associated toxicity. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E1562-70.	3.3	181
5	Walking the tightrope: proteostasis and neurodegenerative disease. Journal of Neurochemistry, 2016, 137, 489-505.	2.1	176
6	Small heat-shock proteins: important players in regulating cellular proteostasis. Cellular and Molecular Life Sciences, 2015, 72, 429-451.	2.4	175
7	Mimicking phosphorylation of Î±B-crystallin affects its chaperone activity. Biochemical Journal, 2007, 401, 129-141.	1.7	159
8	The growing world of small heat shock proteins: from structure to functions. Cell Stress and Chaperones, 2017, 22, 601-611.	1.2	158
9	Extracellular Chaperones and Proteostasis. Annual Review of Biochemistry, 2013, 82, 295-322.	5.0	156
10	Binding of the Molecular Chaperone Î±B-Crystallin to AÎ² Amyloid Fibrils Inhibits Fibril Elongation. Biophysical Journal, 2011, 101, 1681-1689.	0.2	143
11	The Interaction of Î±B-Crystallin with Mature Î±-Synuclein Amyloid Fibrils Inhibits Their Elongation. Biophysical Journal, 2010, 98, 843-851.	0.2	136
12	(â^')-Epigallocatechin-3-Gallate (EGCG) Maintains Îº-Casein in Its Pre-Fibrillar State without Redirecting Its Aggregation Pathway. Journal of Molecular Biology, 2009, 392, 689-700.	2.0	127
13	Phosphomimics Destabilize Hsp27 Oligomeric Assemblies and Enhance Chaperone Activity. Chemistry and Biology, 2015, 22, 186-195.	6.2	110
14	Amyloid Fibril Formation by Bovine Milk Î±_{s2}-Casein Occurs under Physiological Conditions Yet Is Prevented by Its Natural Counterpart, Î±_{s1}-Casein. Biochemistry, 2008, 47, 3926-3936.	1.2	97
15	The small heat shock protein Hsp27 binds Î±-synuclein fibrils, preventing elongation and cytotoxicity. Journal of Biological Chemistry, 2018, 293, 4486-4497.	1.6	97
16	Small Heat-shock Proteins Prevent Î±-Synuclein Aggregation via Transient Interactions and Their Efficacy Is Affected by the Rate of Aggregation. Journal of Biological Chemistry, 2016, 291, 22618-22629.	1.6	96
17	Analysis of the mechanism by which calcium negatively regulates the tyrosine phosphorylation cascade associated with sperm capacitation. Journal of Cell Science, 2004, 117, 211-222.	1.2	93
18	Characterisation of Amyloid Fibril Formation by Small Heat-shock Chaperone Proteins Human Î±A-, Î±B- and R120G Î±B-Crystallins. Journal of Molecular Biology, 2007, 372, 470-484.	2.0	93

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19	Tyrosine Phosphorylation of HSP-90 During Mammalian Sperm Capacitation1. Biology of Reproduction, 2003, 69, 1801-1807.	1.2	88
20	The contribution of proteomics to understanding epididymal maturation of mammalian spermatozoa. Systems Biology in Reproductive Medicine, 2012, 58, 197-210.	1.0	86
21	Small heat-shock proteins interact with a flanking domain to suppress polyglutamine aggregation. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 10424-10429.	3.3	77
22	Endogenous Redox Activity in Mouse Spermatozoa and Its Role in Regulating the Tyrosine Phosphorylation Events Associated with Sperm Capacitation1. Biology of Reproduction, 2003, 69, 347-354.	1.2	76
23	Dissociation from the Oligomeric State Is the Rate-limiting Step in Fibril Formation by Îº-Casein. Journal of Biological Chemistry, 2008, 283, 9012-9022.	1.6	76
24	The small heat shock proteins Î±B-crystallin and Hsp27 suppress SOD1 aggregation in vitro. Cell Stress and Chaperones, 2013, 18, 251-257.	1.2	76
25	Preventing Î±-synuclein aggregation: The role of the small heat-shock molecular chaperone proteins. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2014, 1842, 1830-1843.	1.8	70
26	Structural and Functional Aspects of Hetero-oligomers Formed by the Small Heat Shock Proteins Î±B-Crystallin and HSP27. Journal of Biological Chemistry, 2013, 288, 13602-13609.	1.6	68
27	SOD1 protein aggregates stimulate macropinocytosis in neurons to facilitate their propagation. Molecular Neurodegeneration, 2015, 10, 57.	4.4	68
28	Unraveling the mysteries of protein folding and misfolding. IUBMB Life, 2008, 60, 769-774.	1.5	67
29	Compartmentalization of Prion Isoforms Within the Reproductive Tract of the Ram1. Biology of Reproduction, 2004, 71, 993-1001.	1.2	65
30	Monitoring Early-Stage Protein Aggregation by an Aggregation-Induced Emission Fluorogen. Analytical Chemistry, 2017, 89, 9322-9329.	3.2	63
31	The heat shock response in neurons and astroglia and its role in neurodegenerative diseases. Molecular Neurodegeneration, 2017, 12, 65.	4.4	60
32	Single-Molecule Characterization of the Interactions between Extracellular Chaperones and Toxic Î±-Synuclein Oligomers. Cell Reports, 2018, 23, 3492-3500.	2.9	59
33	Î±B-Crystallin inhibits the cell toxicity associated with amyloid fibril formation by Îº-casein and the amyloid-Î² peptide. Cell Stress and Chaperones, 2010, 15, 1013-1026.	1.2	57
34	Proteomics Approaches for Biomarker and Drug Target Discovery in ALS and FTD. Frontiers in Neuroscience, 2019, 13, 548.	1.4	57
35	The effect of small molecules in modulating the chaperone activity of Î±Bâ€crystallin against ordered and disordered protein aggregation. FEBS Journal, 2008, 275, 935-947.	2.2	56
36	Casein structures in the context of unfolded proteins. International Dairy Journal, 2015, 46, 2-11.	1.5	51

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37	The dissociated form of Îº-casein is the precursor to its amyloid fibril formation. Biochemical Journal, 2010, 429, 251-260.	1.7	49
38	Avoiding the oligomeric state: Î±Bâ€crystallin inhibits fragmentation and induces dissociation of apolipoprotein Câ€II amyloid fibrils. FASEB Journal, 2013, 27, 1214-1222.	0.2	47
39	The small heat-shock protein Î±B-crystallin uses different mechanisms of chaperone action to prevent the amorphous versus fibrillar aggregation of Î±-lactalbumin. Biochemical Journal, 2012, 448, 343-352.	1.7	45
40	The functional roles of the unstructured N- and C-terminal regions in Î±B-crystallin and other mammalian small heat-shock proteins. Cell Stress and Chaperones, 2017, 22, 627-638.	1.2	45
41	Using Single-Molecule Approaches to Understand the Molecular Mechanisms of Heat-Shock Protein Chaperone Function. Journal of Molecular Biology, 2018, 430, 4525-4546.	2.0	45
42	Site-Directed Mutations in the C-Terminal Extension of Human Î±B-Crystallin Affect Chaperone Function and Block Amyloid Fibril Formation. PLoS ONE, 2007, 2, e1046.	1.1	44
43	Multi-kinase inhibitors can associate with heat shock proteins through their NH2-termini by which they suppress chaperone function. Oncotarget, 2016, 7, 12975-12996.	0.8	44
44	Proteaseâ€activated alphaâ€2â€macroglobulin can inhibit amyloid formation via two distinct mechanisms. FEBS Letters, 2013, 587, 398-403.	1.3	43
45	The development of signal transduction pathways during epididymal maturation is calcium dependent. Developmental Biology, 2004, 268, 53-63.	0.9	42
46	The small heat shock proteins Î±B-crystallin (HSPB5) and Hsp27 (HSPB1) inhibit the intracellular aggregation of Î±-synuclein. Cell Stress and Chaperones, 2017, 22, 589-600.	1.2	42
47	Proteostasis and the Regulation of Intra- and Extracellular Protein Aggregation by ATP-Independent Molecular Chaperones: Lens Î±-Crystallins and Milk Caseins. Accounts of Chemical Research, 2018, 51, 745-752.	7.6	39
48	ARâ€12 Inhibits Multiple Chaperones Concomitant With Stimulating Autophagosome Formation Collectively Preventing Virus Replication. Journal of Cellular Physiology, 2016, 231, 2286-2302.	2.0	38
49	Role of the epididymis in sperm competition. Asian Journal of Andrology, 2007, 9, 493-499.	0.8	37
50	The epididymal soluble prion protein forms a high-molecular-mass complex in association with hydrophobic proteins. Biochemical Journal, 2005, 392, 211-219.	1.7	32
51	Model for amorphous aggregation processes. Physical Review E, 2009, 80, 051907.	0.8	31
52	NMR spectroscopy of 14-3-3Î¶ reveals a flexible C-terminal extension: differentiation of the chaperone and phosphoserine-binding activities of 14-3-3Î¶. Biochemical Journal, 2011, 437, 493-503.	1.7	28
53	An automated chromatography procedure optimized for analysis of stable Cu isotopes from biological materials. Journal of Analytical Atomic Spectrometry, 2016, 31, 2023-2030.	1.6	27
54	Carboxymethylated-Îº-casein: A convenient tool for the identification of polyphenolic inhibitors of amyloid fibril formation. Bioorganic and Medicinal Chemistry, 2010, 18, 222-228.	1.4	26

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55	Post-testicular sperm maturation and identification of an epididymal protein in the Japanese quail (Coturnix coturnix japonica). Reproduction, 2014, 147, 265-277.	1.1	26
56	Extracellular Chaperones. Topics in Current Chemistry, 2011, 328, 241-268.	4.0	24
57	Molecular Dynamics Analysis of Apolipoprotein-D - Lipid Hydroperoxide Interactions: Mechanism for Selective Oxidation of Met-93. PLoS ONE, 2012, 7, e34057.	1.1	24
58	Formation and Dissociation of Sperm Bundles in Monotremes. Biology of Reproduction, 2016, 95, 91-91.	1.2	22
59	Functional Amyloid Protection in the Eye Lens: Retention of Î±-Crystallin Molecular Chaperone Activity after Modification into Amyloid Fibrils. Biomolecules, 2017, 7, 67.	1.8	22
60	N- and C-terminal regions of Î±B-crystallin and Hsp27 mediate inhibition of amyloid nucleation, fibril binding, and fibril disaggregation. Journal of Biological Chemistry, 2020, 295, 9838-9854.	1.6	22
61	An Î±-Cyanostilbene Derivative for the Enhanced Detection and Imaging of Amyloid Fibril Aggregates. ACS Chemical Neuroscience, 2020, 11, 4191-4202.	1.7	21
62	An Epididymal Form of Cauxin, a Carboxylesterase-Like Enzyme, Is Present and Active in Mammalian Male Reproductive Fluids1. Biology of Reproduction, 2006, 74, 439-447.	1.2	20
63	The interaction of unfolding Î±-lactalbumin and malate dehydrogenase with the molecular chaperone Î±B-crystallin: a light and X-ray scattering investigation. Molecular Vision, 2010, 16, 2446-56.	1.1	20
64	Effect of molecular chaperones on aberrant protein oligomers <i>in vitro</i>: super-versus sub-stoichiometric chaperone concentrations. Biological Chemistry, 2016, 397, 401-415.	1.2	19
65	The Effect of Milk Constituents and Crowding Agents on Amyloid Fibril Formation by Îº-Casein. Journal of Agricultural and Food Chemistry, 2016, 64, 1335-1343.	2.4	17
66	Evaluating the Effect of Phosphorylation on the Structure and Dynamics of Hsp27 Dimers by Means of Ion Mobility Mass Spectrometry. Analytical Chemistry, 2017, 89, 13275-13282.	3.2	16
67	Enhanced molecular chaperone activity of the small heatâ€shock protein Î±Bâ€crystallin following covalent immobilization onto a solidâ€phase support. Biopolymers, 2011, 95, 376-389.	1.2	14
68	Monotremes Provide a Key to Understanding the Evolutionary Significance of Epididymal Sperm Maturation. Journal of Andrology, 2011, 32, 665-671.	2.0	12
69	Longitudinal assessment of metal concentrations and copper isotope ratios in the G93A SOD1 mouse model of amyotrophic lateral sclerosis. Metallomics, 2017, 9, 161-174.	1.0	12
70	High tolerance of repeated heatwaves in Australian native plants. Austral Ecology, 2019, 44, 597-608.	0.7	12
71	Single-molecule fluorescence-based approach reveals novel mechanistic insights into human small heat shock protein chaperone function. Journal of Biological Chemistry, 2021, 296, 100161.	1.6	12
72	DNAJB chaperones suppress destabilised protein aggregation via a region distinct from that used to inhibit amyloidogenesis. Journal of Cell Science, 2021, 134, .	1.2	12

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73	New proteins identified in epididymal fluid from the platypus (Ornithorhynchus anatinus). Reproduction, Fertility and Development, 2009, 21, 1002.	0.1	11
74	Proteostasis in the Male and Female Germline: A New Outlook on the Maintenance of Reproductive Health. Frontiers in Cell and Developmental Biology, 2021, 9, 660626.	1.8	11
75	Native disulphide-linked dimers facilitate amyloid fibril formation by bovine milk Î±S2-casein. Biophysical Chemistry, 2021, 270, 106530.	1.5	10
76	Illuminating amyloid fibrils: Fluorescence-based single-molecule approaches. Computational and Structural Biotechnology Journal, 2021, 19, 4711-4724.	1.9	9
77	Redefining the Chaperone Mechanism of sHsps: Not Just Holdase Chaperones. Heat Shock Proteins, 2015, , 179-195.	0.2	7
78	AR-12 Inhibits Chaperone Proteins Preventing Virus Replication and the Accumulation of Toxic Misfolded Proteins. Journal of Clinical & Cellular Immunology, 2016, 7, .	1.5	7
79	The influence of the N-terminal region proximal to the core domain on the assembly and chaperone activity of Î±B-crystallin. Cell Stress and Chaperones, 2018, 23, 827-836.	1.2	7
80	Stress in native grasses under ecologically relevant heat waves. PLoS ONE, 2018, 13, e0204906.	1.1	7
81	Testicular descent, sperm maturation and capacitation. Lessons from our most distant relatives, the monotremes. Reproduction, Fertility and Development, 2009, 21, 992.	0.1	6
82	Letter to the Editor: A response to Horne and Lucey (2017). Journal of Dairy Science, 2017, 100, 5121-5124.	1.4	6
83	Neurodegenerative disease-associated protein aggregates are poor inducers of the heat shock response in neuronal cells. Journal of Cell Science, 2020, 133, .	1.2	6
84	Bioprospecting keratinous materials. International Journal of Trichology, 2010, 2, 47.	0.1	5
85	Amyloid Fibrils from Readily Available Sources: Milk Casein and Lens Crystallin Proteins. Methods in Molecular Biology, 2013, 996, 103-117.	0.4	5
86	Using bicistronic constructs to evaluate the chaperone activities of heat shock proteins in cells. Scientific Reports, 2017, 7, 2387.	1.6	5
87	De Novo Design, Synthesis, and Mechanistic Evaluation of Short Peptides That Mimic Heat Shock Protein 27 Activity. ACS Medicinal Chemistry Letters, 2021, 12, 713-719.	1.3	3
88	Regional Differences in Heat Shock Protein 25 Expression in Brain and Spinal Cord Astrocytes of Wild-Type and SOD1G93A Mice. Cells, 2021, 10, 1257.	1.8	3
89	Polymorphism in Casein Protein Aggregation and Amyloid Fibril Formation. , 2014, , 323-331.		2
90	Assessment of metal concentrations in the SOD1G93A mouse model of amyotrophic lateral sclerosis and its potential role in muscular denervation, with particular focus on muscle tissue. Molecular and Cellular Neurosciences, 2018, 88, 319-329.	1.0	2

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91	The Monomeric Î±-Crystallin Domain of the Small Heat-shock Proteins Î±B-crystallin and Hsp27 Binds Amyloid Fibril Ends. Journal of Molecular Biology, 2022, 434, 167711.	2.0	2
92	Extracellular Chaperones. Topics in Current Chemistry, 2010, , 1.	4.0	1
93	Exploiting flow cytometry for the unbiased quantification of protein inclusions in <i>Caenorhabditis elegans</i>. Journal of Neurochemistry, 2022, 161, 281-292.	2.1	1