James A Irving

List of Publications by Year
in descending order

79 papers	4,250 citations	147566 31 h-index	110170 64 g-index
85 all docs	85 docs citations	85 times ranked	4475 citing authors

#	Article	IF	Citations
1	The Serpins Are an Expanding Superfamily of Structurally Similar but Functionally Diverse Proteins. Journal of Biological Chemistry, 2001, 276, 33293-33296.	1.6	1,069
2	Phylogeny of the Serpin Superfamily: Implications of Patterns of Amino Acid Conservation for Structure and Function. Genome Research, 2000, 10, 1845-1864.	2.4	488
3	Functional insights from the distribution and role of homopeptide repeat-containing proteins. Genome Research, 2005, 15, 537-551.	2.4	189
4	Human clade B serpins (ov-serpins) belong to a cohort of evolutionarily dispersed intracellular proteinase inhibitor clades that protect cells from promiscuous proteolysis. Cellular and Molecular Life Sciences, 2004, 61, 301-325.	2.4	159
5	Phylogeny of the Serpin Superfamily: Implications of Patterns of Amino Acid Conservation for Structure and Function. Genome Research, 2000, 10, 1845-1864.	2.4	145
6	Serpins in Prokaryotes. Molecular Biology and Evolution, 2002, 19, 1881-1890.	3.5	112
7	The Evolution of Enzyme Specificity in Fasciola spp.. Journal of Molecular Evolution, 2003, 57, 1-15.	0.8	106
8	The Murine Orthologue of Human Antichymotrypsin. Journal of Biological Chemistry, 2005, 280, 43168-43178.	1.6	97
9	Cloning and Expression of the Major SecretedCathepsin B-Like Protein from Juvenile Fasciola hepatica andAnalysis of Immunogenicity following Liver FlukeInfection. Infection and Immunity, 2003, 71, 6921-6932.	1.0	88
10	Inhibitory Activity of a Heterochromatin-associated Serpin (MENT) against Papain-like Cysteine Proteinases Affects Chromatin Structure and Blocks Cell Proliferation. Journal of Biological Chemistry, 2002, 277, 13192-13201.	1.6	77
11	Protein structural alignments and functional genomics. Proteins: Structure, Function and Bioinformatics, 2001, 42, 378-382.	1.5	76
12	Hurpin Is a Selective Inhibitor of Lysosomal Cathepsin L and Protects Keratinocytes from Ultraviolet-Induced Apoptosis. Biochemistry, 2003, 42, 7381-7389.	1.2	72
13	Evidence That Serpin Architecture Intrinsically Supports Papain-like Cysteine Protease Inhibition:â€‰ Engineering Î±1-Antitrypsin To Inhibit Cathepsin Proteases. Biochemistry, 2002, 41, 4998-5004.	1.2	71
14	The High Resolution Crystal Structure of the Human Tumor Suppressor Maspin Reveals a Novel Conformational Switch in the G-helix. Journal of Biological Chemistry, 2005, 280, 22356-22364.	1.6	69
15	The Serpin SQN-5 Is a Dual Mechanistic-Class Inhibitor of Serine and Cysteine Proteinases. Biochemistry, 2002, 41, 3189-3199.	1.2	61
16	For the record: A single amino acid substitution affects substrate specificity in cysteine proteinases from Fasciola hepatica. Protein Science, 2000, 9, 2567-2572.	3.1	59
17	The N terminus of the serpin, tengpin, functions to trap the metastable native state. EMBO Reports, 2007, 8, 658-663.	2.0	48
18	Simple Modifications of the Serpin Reactive Site Loop Convert SCCA2 into a Cysteine Proteinase Inhibitor:Â A Critical Role for the P3â€˜ Proline in Facilitating RSL Cleavageâ€. Biochemistry, 2000, 39, 7081-7091.	1.2	47

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19	MUSTANG-MR Structural Sieving Server: Applications in Protein Structural Analysis and Crystallography. PLoS ONE, 2010, 5, e10048.	1.1	47
20	The 1.5 Ã... Crystal Structure of a Prokaryote Serpin. Structure, 2003, 11, 387-397.	1.6	44
21	A singleâ€chain variable fragment intrabody prevents intracellular polymerization of Z Î± ₁ â€antitrypsin while allowing its antiproteinase activity. FASEB Journal, 2015, 29, 2667-2678.	0.2	44
22	Human Ovalbumin Serpin Evolution: Phylogenic Analysis, Gene Organization, and Identification of New PI8-Related Genes Suggest That Two Interchromosomal and Several Intrachromosomal Duplications Generated the Gene Clusters at 18q21â€“q23 and 6p25. Genomics, 1999, 62, 490-499.	1.3	43
23	Unravelling the twists and turns of the serpinopathies. FEBS Journal, 2011, 278, 3859-3867.	2.2	42
24	X-ray crystal structure of MENT: evidence for functional loopâ€“sheet polymers in chromatin condensation. EMBO Journal, 2006, 25, 3144-3155.	3.5	41
25	Phosphoproteins in Stress-Induced Disease. Progress in Molecular Biology and Translational Science, 2012, 106, 189-221.	0.9	41
26	DNA Accelerates the Inhibition of Human Cathepsin V by Serpins. Journal of Biological Chemistry, 2007, 282, 36980-36986.	1.6	40
27	A major cathepsin B protease from the liver fluke Fasciola hepatica has atypical active site features and a potential role in the digestive tract of newly excysted juvenile parasites. International Journal of Biochemistry and Cell Biology, 2009, 41, 1601-1612.	1.2	39
28	Serpins: Finely Balanced Conformational Traps. IUBMB Life, 2002, 54, 1-7.	1.5	38
29	An integrative approach combining ion mobility mass spectrometry, Xâ€ray crystallography, and nuclear magnetic resonance spectroscopy to study the conformational dynamics of Î±₁â€antitrypsin upon ligand binding. Protein Science, 2015, 24, 1301-1312.	3.1	37
30	The Serpinopathies. Methods in Enzymology, 2011, 501, 421-466.	0.4	35
31	A serpin in the cellulosome of the anaerobic fungus Piromyces sp. strain E2. Mycological Research, 2008, 112, 999-1006.	2.5	34
32	Structural Mechanisms of Inactivation in Scabies Mite Serine Protease Paralogues. Journal of Molecular Biology, 2009, 390, 635-645.	2.0	33
33	Development of a small molecule that corrects misfolding and increases secretion of Z Î± ₁ â€antitrypsin. EMBO Molecular Medicine, 2021, 13, e13167.	3.3	33
34	Characterisation of serpin polymers in vitro and in vivo. Methods, 2011, 53, 255-266.	1.9	31
35	Deficiency Mutations of Alpha-1 Antitrypsin. Effects on Folding, Function, and Polymerization. American Journal of Respiratory Cell and Molecular Biology, 2016, 54, 71-80.	1.4	31
36	The High Resolution Crystal Structure of a Native Thermostable Serpin Reveals the Complex Mechanism Underpinning the Stressed to Relaxed Transition. Journal of Biological Chemistry, 2005, 280, 8435-8442.	1.6	29

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37	A Molecular Switch Governs the Interaction between the Human Complement Protease C1s and Its Substrate, Complement C4. Journal of Biological Chemistry, 2013, 288, 15821-15829.	1.6	29
38	Characterising the association of latency with Î±1-antitrypsin polymerisation using a novel monoclonal antibody. International Journal of Biochemistry and Cell Biology, 2015, 58, 81-91.	1.2	26
39	The structural basis for Z Î± ₁ -antitrypsin polymerization in the liver. Science Advances, 2020, 6, .	4.7	26
40	Structure of granzyme C reveals an unusual mechanism of protease autoinhibition. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5587-5592.	3.3	25
41	Altered native stability is the dominant basis for susceptibility of Î±1-antitrypsin mutants to polymerization. Biochemical Journal, 2014, 460, 103-119.	1.7	25
42	Reactive centre loop mutants of Î±-1-antitrypsin reveal position-specific effects on intermediate formation along the polymerization pathway. Bioscience Reports, 2013, 33, .	1.1	24
43	Role of the Î±-Helix 163-170 in Factor Xa Catalytic Activity. Journal of Biological Chemistry, 2007, 282, 31569-31579.	1.6	23
44	The pathological Trento variant of alphaâ€1â€antitrypsin (E75V) shows nonclassical behaviour during polymerization. FEBS Journal, 2017, 284, 2110-2126.	2.2	23
45	An antibody raised against a pathogenic serpin variant induces mutant-like behaviour in the wild-type protein. Biochemical Journal, 2015, 468, 99-108.	1.7	22
46	Smoothing a rugged protein folding landscape by sequence-based redesign. Scientific Reports, 2016, 6, 33958.	1.6	22
47	Lanthanides compete with calcium for binding to cadherins and inhibit cadherin-mediated cell adhesion. Metallomics, 2019, 11, 914-924.	1.0	22
48	Aeropin from the Extremophile Pyrobaculum aerophilum Bypasses the Serpin Misfolding Trap. Journal of Biological Chemistry, 2007, 282, 26802-26809.	1.6	20
49	Interactions between Nâ€linked glycosylation and polymerisation of neuroserpin within the endoplasmic reticulum. FEBS Journal, 2015, 282, 4565-4579.	2.2	19
50	Serpins in theCaenorhabditis elegans genome. , 1999, 36, 31-41.		18
51	Requirement of multiple phage displayed peptide libraries for optimal mapping of a conformational antibody epitope on CCR5. Journal of Immunological Methods, 2005, 299, 21-35.	0.6	16
52	Suppression of AÎ² toxicity by puromycin-sensitive aminopeptidase is independent of its proteolytic activity. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2013, 1832, 2115-2126.	1.8	16
53	Intrahepatic heteropolymerization of M and Z alpha-1-antitrypsin. JCI Insight, 2020, 5, .	2.3	16
54	Targeting Serpins in High-Throughput and Structure-Based Drug Design. Methods in Enzymology, 2011, 501, 139-175.	0.4	15

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55	An antibody that prevents serpin polymerisation acts by inducing a novel allosteric behaviour. Biochemical Journal, 2016, 473, 3269-3290.	1.7	15
56	High-resolution ex vivo NMR spectroscopy of human Z Î±1-antitrypsin. Nature Communications, 2020, 11, 6371.	5.8	15
57	Characterisation of a type II functionally-deficient variant of alpha-1-antitrypsin discovered in the general population. PLoS ONE, 2019, 14, e0206955.	1.1	13
58	Probing the folding pathway of a consensus serpin using single tryptophan mutants. Scientific Reports, 2018, 8, 2121.	1.6	12
59	Computational analysis of evolution and conservation in a protein superfamily. Methods, 2004, 32, 73-92.	1.9	11
60	The development of highly potent and selective small molecule correctors of Z Î±1-antitrypsin misfolding. Bioorganic and Medicinal Chemistry Letters, 2021, 41, 127973.	1.0	9
61	Sequence, Organization, Chromosomal Localization, and Alternative Splicing of the Human Serine Protease Inhibitor Gene Hurpin (PI13) Which Is Upregulated in Psoriasis. DNA and Cell Biology, 2001, 20, 123-131.	0.9	8
62	Peptide mimotopes selected with HIVâ€1â€blocking monoclonal antibodies against CCR5 represent motifs specific for HIVâ€1 entry. Immunology and Cell Biology, 2007, 85, 511-517.	1.0	8
63	The molecular species responsible for Î± 1 â€antitrypsin deficiency are suppressed by a small molecule chaperone. FEBS Journal, 2021, 288, 2222-2237.	2.2	8
64	Conversion of the death inhibitor ARC to a killer activates pancreatic Î² cell death in diabetes. Developmental Cell, 2021, 56, 747-760.e6.	3.1	8
65	Serpins in the Caenorhabditis elegans genome. Proteins: Structure, Function and Bioinformatics, 1999, 36, 31-41.	1.5	8
66	Serpins in Prokaryotes. , 2007, , 131-162.		6
67	The Importance of N186 in the Alpha-1-Antitrypsin Shutter Region Is Revealed by the Novel Bologna Deficiency Variant. International Journal of Molecular Sciences, 2021, 22, 5668.	1.8	5
68	Serpinopathies. , 2019, , 6-26.		5
69	Scaling Concepts in Serpin Polymer Physics. Materials, 2021, 14, 2577.	1.3	4
70	Evolution and Classification of the Serpin Superfamily. , 2007, , 1-33.		4
71	Conformational Change in the Chromatin Remodelling Protein MENT. PLoS ONE, 2009, 4, e4727.	1.1	3
72	Alpha1-Antitrypsin: Structure and Dynamics in Health, Disease and Drug Development. , 2017, , 49-80.		2

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73	Electrophoresis- and FRET-Based Measures of Serpin Polymerization. Methods in Molecular Biology, 2017, 1639, 235-248.	0.4	1
74	P117 3D cryo-electron microscopic analysis of the disease mechanism of Â1-antitrypsin deficiency. Thorax, 2011, 66, A115-A115.	2.7	0
75	Defining The Mechanism Of Polymerisation That Underlies Î±1-Antitrypsin Deficiency. , 2012, , .		0
76	Novel Mechanisms Of Immune Modulation By Alpha-1-Antitrypsin. Journal of Allergy and Clinical Immunology, 2014, 133, AB138.	1.5	0
77	In Vitro Approaches for the Assessment of Serpin Polymerization. Methods in Molecular Biology, 2018, 1826, 87-107.	0.4	0
78	Epitope Mapping of FIX Inhibitors Identify Contact Residues in the Protease Domain.. Blood, 2009, 114, 3172-3172.	0.6	0
79	Chapter 10. Structural Mechanisms of Inactivation in Proteolytically Inactive Serine Proteases from Sarcoptes scabiei. RSC Drug Discovery Series, 2011, , 229-241.	0.2	0