

James A Irving

List of Publications by Year in descending order

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79
papers

4,250
citations

147801

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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. <i>Journal of Biological Chemistry</i> , 2001, 276, 33293-33296.	3.4	1,069
2	Phylogeny of the Serpin Superfamily: Implications of Patterns of Amino Acid Conservation for Structure and Function. <i>Genome Research</i> , 2000, 10, 1845-1864.	5.5	488
3	Functional insights from the distribution and role of homopeptide repeat-containing proteins. <i>Genome Research</i> , 2005, 15, 537-551.	5.5	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. <i>Cellular and Molecular Life Sciences</i> , 2004, 61, 301-325.	5.4	159
5	Phylogeny of the Serpin Superfamily: Implications of Patterns of Amino Acid Conservation for Structure and Function. <i>Genome Research</i> , 2000, 10, 1845-1864.	5.5	145
6	Serpins in Prokaryotes. <i>Molecular Biology and Evolution</i> , 2002, 19, 1881-1890.	8.9	112
7	The Evolution of Enzyme Specificity in <i>Fasciola</i> spp.. <i>Journal of Molecular Evolution</i> , 2003, 57, 1-15.	1.8	106
8	The Murine Orthologue of Human Antichymotrypsin. <i>Journal of Biological Chemistry</i> , 2005, 280, 43168-43178.	3.4	97
9	Cloning and Expression of the Major Secreted Cathepsin B-Like Protein from Juvenile <i>Fasciola hepatica</i> and Analysis of Immunogenicity following Liver Fluke Infection. <i>Infection and Immunity</i> , 2003, 71, 6921-6932.	2.2	88
10	Inhibitory Activity of a Heterochromatin-associated Serpin (MENT) against Papain-like Cysteine Proteinases Affects Chromatin Structure and Blocks Cell Proliferation. <i>Journal of Biological Chemistry</i> , 2002, 277, 13192-13201.	3.4	77
11	Protein structural alignments and functional genomics. <i>Proteins: Structure, Function and Bioinformatics</i> , 2001, 42, 378-382.	2.6	76
12	Hurpin Is a Selective Inhibitor of Lysosomal Cathepsin L and Protects Keratinocytes from Ultraviolet-Induced Apoptosis. <i>Biochemistry</i> , 2003, 42, 7381-7389.	2.5	72
13	Evidence That Serpin Architecture Intrinsically Supports Papain-like Cysteine Protease Inhibition: Engineering I \pm 1-Antitrypsin To Inhibit Cathepsin Proteases. <i>Biochemistry</i> , 2002, 41, 4998-5004.	2.5	71
14	The High Resolution Crystal Structure of the Human Tumor Suppressor Maspin Reveals a Novel Conformational Switch in the G-helix. <i>Journal of Biological Chemistry</i> , 2005, 280, 22356-22364.	3.4	69
15	The Serpin SQN-5 Is a Dual Mechanistic-Class Inhibitor of Serine and Cysteine Proteinases. <i>Biochemistry</i> , 2002, 41, 3189-3199.	2.5	61
16	For the record: A single amino acid substitution affects substrate specificity in cysteine proteinases from <i>Fasciola hepatica</i> . <i>Protein Science</i> , 2000, 9, 2567-2572.	7.6	59
17	The N terminus of the serpin, tengpin, functions to trap the metastable native state. <i>EMBO Reports</i> , 2007, 8, 658-663.	4.5	48
18	Simple Modifications of the Serpin Reactive Site Loop Convert SCCA2 into a Cysteine Proteinase Inhibitor: A Critical Role for the P3 \hat{c} Proline in Facilitating RSL Cleavage. <i>Biochemistry</i> , 2000, 39, 7081-7091.	2.5	47

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19	MUSTANG-MR Structural Sieving Server: Applications in Protein Structural Analysis and Crystallography. PLoS ONE, 2010, 5, e10048.	2.5	47
20	The 1.5 Å... Crystal Structure of a Prokaryote Serpin. Structure, 2003, 11, 387-397.	3.3	44
21	A single-chain variable fragment intrabody prevents intracellular polymerization of Z α 1-antitrypsin while allowing its antiprotease activity. FASEB Journal, 2015, 29, 2667-2678.	0.5	44
22	Human Ovalbumin Serpin Evolution: Phylogenetic Analysis, Gene Organization, and Identification of New PI8-Related Genes Suggest That Two Interchromosomal and Several Intrachromosomal Duplications Generated the Gene Clusters at 18q21-q23 and 6p25. Genomics, 1999, 62, 490-499.	2.9	43
23	Unravelling the twists and turns of the serpinopathies. FEBS Journal, 2011, 278, 3859-3867.	4.7	42
24	X-ray crystal structure of MENT: evidence for functional loop-sheet polymers in chromatin condensation. EMBO Journal, 2006, 25, 3144-3155.	7.8	41
25	Phosphoproteins in Stress-Induced Disease. Progress in Molecular Biology and Translational Science, 2012, 106, 189-221.	1.7	41
26	DNA Accelerates the Inhibition of Human Cathepsin V by Serpins. Journal of Biological Chemistry, 2007, 282, 36980-36986.	3.4	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.	2.8	39
28	Serpins: Finely Balanced Conformational Traps. IUBMB Life, 2002, 54, 1-7.	3.4	38
29	An integrative approach combining ion mobility mass spectrometry, X-ray crystallography, and nuclear magnetic resonance spectroscopy to study the conformational dynamics of Z α 1-antitrypsin upon ligand binding. Protein Science, 2015, 24, 1301-1312.	7.6	37
30	The Serpinopathies. Methods in Enzymology, 2011, 501, 421-466.	1.0	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.	4.2	33
33	Development of a small molecule that corrects misfolding and increases secretion of Z α 1-antitrypsin. EMBO Molecular Medicine, 2021, 13, e13167.	6.9	33
34	Characterisation of serpin polymers in vitro and in vivo. Methods, 2011, 53, 255-266.	3.8	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.	2.9	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.	3.4	29

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37	A Molecular Switch Governs the Interaction between the Human Complement Protease C1s and Its Substrate, Complement C4. <i>Journal of Biological Chemistry</i> , 2013, 288, 15821-15829.	3.4	29
38	Characterising the association of latency with α 1-antitrypsin polymerisation using a novel monoclonal antibody. <i>International Journal of Biochemistry and Cell Biology</i> , 2015, 58, 81-91.	2.8	26
39	The structural basis for Z α 1-antitrypsin polymerization in the liver. <i>Science Advances</i> , 2020, 6, .	10.3	26
40	Structure of granzyme C reveals an unusual mechanism of protease autoinhibition. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 5587-5592.	7.1	25
41	Altered native stability is the dominant basis for susceptibility of α 1-antitrypsin mutants to polymerization. <i>Biochemical Journal</i> , 2014, 460, 103-119.	3.7	25
42	Reactive centre loop mutants of α 1-antitrypsin reveal position-specific effects on intermediate formation along the polymerization pathway. <i>Bioscience Reports</i> , 2013, 33, .	2.4	24
43	Role of the α -Helix 163-170 in Factor Xa Catalytic Activity. <i>Journal of Biological Chemistry</i> , 2007, 282, 31569-31579.	3.4	23
44	The pathological Trento variant of α 1-antitrypsin (E75V) shows nonclassical behaviour during polymerization. <i>FEBS Journal</i> , 2017, 284, 2110-2126.	4.7	23
45	An antibody raised against a pathogenic serpin variant induces mutant-like behaviour in the wild-type protein. <i>Biochemical Journal</i> , 2015, 468, 99-108.	3.7	22
46	Smoothing a rugged protein folding landscape by sequence-based redesign. <i>Scientific Reports</i> , 2016, 6, 33958.	3.3	22
47	Lanthanides compete with calcium for binding to cadherins and inhibit cadherin-mediated cell adhesion. <i>Metallomics</i> , 2019, 11, 914-924.	2.4	22
48	Aeropin from the Extremophile <i>Pyrobaculum aerophilum</i> Bypasses the Serpin Misfolding Trap. <i>Journal of Biological Chemistry</i> , 2007, 282, 26802-26809.	3.4	20
49	Interactions between N-linked glycosylation and polymerisation of neuroserpin within the endoplasmic reticulum. <i>FEBS Journal</i> , 2015, 282, 4565-4579.	4.7	19
50	Serpins in the <i>Caenorhabditis elegans</i> genome. , 1999, 36, 31-41.		18
51	Requirement of multiple phage displayed peptide libraries for optimal mapping of a conformational antibody epitope on CCR5. <i>Journal of Immunological Methods</i> , 2005, 299, 21-35.	1.4	16
52	Suppression of $A\beta$ toxicity by puromycin-sensitive aminopeptidase is independent of its proteolytic activity. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2013, 1832, 2115-2126.	3.8	16
53	Intrahepatic heteropolymerization of M and Z α 1-antitrypsin. <i>JCI Insight</i> , 2020, 5, .	5.0	16
54	Targeting Serpins in High-Throughput and Structure-Based Drug Design. <i>Methods in Enzymology</i> , 2011, 501, 139-175.	1.0	15

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55	An antibody that prevents serpin polymerisation acts by inducing a novel allosteric behaviour. <i>Biochemical Journal</i> , 2016, 473, 3269-3290.	3.7	15
56	High-resolution ex vivo NMR spectroscopy of human Z ¹ -antitrypsin. <i>Nature Communications</i> , 2020, 11, 6371.	12.8	15
57	Characterisation of a type II functionally-deficient variant of alpha-1-antitrypsin discovered in the general population. <i>PLoS ONE</i> , 2019, 14, e0206955.	2.5	13
58	Probing the folding pathway of a consensus serpin using single tryptophan mutants. <i>Scientific Reports</i> , 2018, 8, 2121.	3.3	12
59	Computational analysis of evolution and conservation in a protein superfamily. <i>Methods</i> , 2004, 32, 73-92.	3.8	11
60	The development of highly potent and selective small molecule correctors of Z ¹ -antitrypsin misfolding. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2021, 41, 127973.	2.2	9
61	Sequence, Organization, Chromosomal Localization, and Alternative Splicing of the Human Serine Protease Inhibitor Gene Hurpin (PI13) Which Is Upregulated in Psoriasis. <i>DNA and Cell Biology</i> , 2001, 20, 123-131.	1.9	8
62	Peptide mimotopes selected with HIV-1 blocking monoclonal antibodies against CCR5 represent motifs specific for HIV-1 entry. <i>Immunology and Cell Biology</i> , 2007, 85, 511-517.	2.3	8
63	The molecular species responsible for Z ¹ antitrypsin deficiency are suppressed by a small molecule chaperone. <i>FEBS Journal</i> , 2021, 288, 2222-2237.	4.7	8
64	Conversion of the death inhibitor ARC to a killer activates pancreatic Z ² cell death in diabetes. <i>Developmental Cell</i> , 2021, 56, 747-760.e6.	7.0	8
65	Serpins in the <i>Caenorhabditis elegans</i> genome. <i>Proteins: Structure, Function and Bioinformatics</i> , 1999, 36, 31-41.	2.6	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. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5668.	4.1	5
68	Serpinopathies. , 2019, , 6-26.		5
69	Scaling Concepts in Serpin Polymer Physics. <i>Materials</i> , 2021, 14, 2577.	2.9	4
70	Evolution and Classification of the Serpin Superfamily. , 2007, , 1-33.		4
71	Conformational Change in the Chromatin Remodelling Protein MENT. <i>PLoS ONE</i> , 2009, 4, e4727.	2.5	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.	0.9	1
74	P117 3D cryo-electron microscopic analysis of the disease mechanism of $\hat{\text{A}}1$ -antitrypsin deficiency. Thorax, 2011, 66, A115-A115.	5.6	0
75	Defining The Mechanism Of Polymerisation That Underlies $\hat{\text{A}}1$ -Antitrypsin Deficiency. , 2012, , .		0
76	Novel Mechanisms Of Immune Modulation By Alpha-1-Antitrypsin. Journal of Allergy and Clinical Immunology, 2014, 133, AB138.	2.9	0
77	In Vitro Approaches for the Assessment of Serpin Polymerization. Methods in Molecular Biology, 2018, 1826, 87-107.	0.9	0
78	Epitope Mapping of FIX Inhibitors Identify Contact Residues in the Protease Domain.. Blood, 2009, 114, 3172-3172.	1.4	0
79	Chapter 10. Structural Mechanisms of Inactivation in Proteolytically Inactive Serine Proteases from <i>Sarcoptes scabiei</i> . RSC Drug Discovery Series, 2011, , 229-241.	0.3	0