Jerry L Hedrick

List of Publications by Year
in descending order

103 papers	6,903 citations	71061 41 h-index	58549 82 g-index
104 all docs	104 docs citations	104 times ranked	1811 citing authors

#	Article	IF	Citations
1	Size and charge isomer separation and estimation of molecular weights of proteins by disc gel electrophoresis. Archives of Biochemistry and Biophysics, 1968, 126, 155-164.	1.4	2,101
2	Isolation, physicochemical properties, and macromolecular composition of zona pellucida from porcine oocytes. Biochemistry, 1980, 19, 356-365.	1.2	242
3	Determination of N-Glycosylation Sites and Site Heterogeneity in Glycoproteins. Analytical Chemistry, 2003, 75, 5628-5637.	3.2	232
4	Formation and structure of the fertilization envelope in Xenopus laevis. Developmental Biology, 1974, 36, 44-61.	0.9	210
5	On the Role of Pyridoxal 5'-Phosphate in Phosphorylase. I. Absence of Classical Vitamin B6â€"dependent Enzymatic Activities in Muscle Glycogen Phosphorylase*. Biochemistry, 1965, 4, 1337-1343.	1.2	188
6	On the Role of Pyridoxal 5'-Phosphate in Phosphorylase. II. Resolution of Rabbit Muscle Phosphorylase b*. Biochemistry, 1966, 5, 2108-2116.	1.2	180
7	A molecular approach to fertilization. Developmental Biology, 1971, 25, 348-359.	0.9	175
8	Structure and function of the extracellular matrix of anuran eggs. Journal of Electron Microscopy Technique, 1991, 17, 319-335.	1.1	118
9	Isolation, physicochemical properties, and the macromolecular composition of the vitelline and fertilization envelopes from Xenopus laevis eggs. Biochemistry, 1976, 15, 3671-3678.	1.2	115
10	On the macromolecular composition of the zona pellucida from porcine oocytes. Developmental Biology, 1987, 121, 478-488.	0.9	110
11	Evidence that the fertilization envelope blocks sperm entry in eggs of Xenopus laevis: Interaction of sperm with isolated envelopes. Developmental Biology, 1976, 54, 52-60.	0.9	106
12	On the Role of Pyridoxal 5'-Phosphate in Phosphorylase. III. Physicochemical Properties and Reconstitution of Apophosphorylase b*. Biochemistry, 1966, 5, 2117-2125.	1.2	86
13	Isolation and characterization of a lectin from the cortical granules of Xenopus laevis eggs. Biochemistry, 1986, 25, 6013-6020.	1.2	85
14	Zona Pellucida-Induced Acrosome Reaction in Boar Sperm1. Biology of Reproduction, 1989, 40, 525-530.	1.2	85
15	Catalog-Library Approach for the Rapid and Sensitive Structural Elucidation of Oligosaccharides. Analytical Chemistry, 1999, 71, 3747-3754.	3.2	84
16	Hatching in the toad Xenopus laevis: Morphological events and evidence for a hatching enzyme. Developmental Biology, 1974, 38, 1-13.	0.9	82
17	Reconstitution of apophosphorylase with pyridoxal 5'-phosphate analogs. Biochemistry, 1969, 8, 5189-5196.	1.2	78
18	Macromolecular composition of Xenopus laevis egg jelly coat. Biochemistry, 1975, 14, 3101-3107.	1.2	72

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19	Conformational changes and the mechanism of resolution of glycogen phosphorylase. Biochemistry, 1969, 8, 2422-2429.	1.2	71
20	A molecular approach to fertilization. Developmental Biology, 1971, 25, 337-347.	0.9	70
21	Neutral oligosaccharide structures linked to asparagines of porcine zona pellucida glycoproteins. Biochemistry, 1991, 30, 2078-2087.	1.2	70
22	Alteration of structure and penetrability of the vitelline envelope after passage of eggs from coelom to oviduct inXenopus laevis. The Journal of Experimental Zoology, 1977, 201, 73-83.	1.4	69
23	An immunocytochemical localization of the cortical granule lectin in fertilized and unfertilized eggs of xenopus laevis. Gamete Research, 1978, 1, 13-18.	1.7	68
24	Reevaluation of the Molecular Weights of Glycogen Phosphorylases a and b Using Sephadex Gel Filtration*. Biochemistry, 1967, 6, 3489-3497.	1.2	67
25	Differences in the macromolecular composition of the zona pellucida isolated from pig oocytes, eggs, and zygotes. The Journal of Experimental Zoology, 1987, 241, 257-262.	1.4	67
26	The vitelline envelope to fertilization envelope conversion in eggs of Xenopus laevis. Developmental Biology, 1986, 116, 1-7.	0.9	66
27	A molecular approach to fertilization. Developmental Biology, 1971, 25, 360-376.	0.9	62
28	Proteases released from Xenopus laevis eggs at activation and their role in envelope conversion. Developmental Biology, 1989, 135, 202-211.	0.9	60
29	Limited and specific proteolysis of the zona pellucida by acrosin. The Journal of Experimental Zoology, 1985, 233, 479-483.	1.4	58
30	cDNA cloning and sequence analysis of the Xenopus laevis egg envelope glycoprotein gp43. Development Growth and Differentiation, 1997, 39, 457-467.	0.6	58
31	Independent and Hetero-Oligomeric-Dependent Sperm Binding to Egg Envelope Glycoprotein ZPC in Xenopus laevis1. Biology of Reproduction, 2000, 62, 766-774.	1.2	54
32	Strategy for Profiling and Structure Elucidation of Mucin-Type Oligosaccharides by Mass Spectrometry. Analytical Chemistry, 2004, 76, 5990-6001.	3.2	51
33	Anuran and pig egg zona pellucida glycoproteins in fertilization and early development. International Journal of Developmental Biology, 2008, 52, 683-701.	0.3	50
34	The coelomic envelope to vitelline envelope conversion in eggs ofXenopus laevis. Journal of Cellular Biochemistry, 1986, 30, 341-350.	1.2	49
35	The Fertilization Layer Mediated Block to Polyspermy inXenopus laevis:Isolation of the Cortical Granule Lectin Ligand. Archives of Biochemistry and Biophysics, 1996, 333, 326-332.	1.4	49
36	Oviductin, the Xenopus laevis Oviductal Protease That Processes Egg Envelope Glycoprotein gp43, Increases Sperm Binding to Envelopes, and Is Translated as Part of an Unusual Mosaic Protein Composed of Two Protease and Several CUB Domains1. Biology of Reproduction, 1999, 60, 989-995.	1.2	49

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37	Oviductin. Purification and properties of the oviductal protease that processes the molecular weight 43,000 glycoprotein of the Xenopus laevis egg envelope. Biochemistry, 1992, 31, 4466-4472.	1.2	47
38	Characterization of Neutral Oligosaccharide-Alditols fromXenopus laevisEgg Jelly Coats by Matrix-Assisted Laser Desorption Fourier Transform Mass Spectrometry. Analytical Biochemistry, 1997, 250, 18-28.	1.1	46
39	Purification and characterization of an N-acetyl-Î²-D-glucosaminidase from cortical granules ofXenopus laevis eggs. The Journal of Experimental Zoology, 1985, 235, 335-340.	1.4	44
40	The Synthesis and Localization of Envelope Glycoproteins in Oocytes of Xenopus laevis using Immunocytochemical Methods. (egg envelope/Xenopus/oogenesis/glycoprotein/immunocytochemistry). Development Growth and Differentiation, 1989, 31, 85-94.	0.6	44
41	Isolation and characterization of the hatching enzyme from the amphibian, Xenopus laevis. Archives of Biochemistry and Biophysics, 1981, 206, 424-431.	1.4	43
42	Physicochemical characterization of progressive changes in the Xenopus laevis egg envelope following oviductal transport and fertilization. Biochemistry, 1990, 29, 609-615.	1.2	41
43	O-Linked neutral sugar chains of porcine zona pellucida glycoproteins. FEBS Journal, 1993, 214, 763-769.	0.2	41
44	Stereospecific requirements for carbonyl reagents in the resolution and reconstitution of phosphorylase b. Biochemistry, 1969, 8, 2429-2436.	1.2	40
45	Gel filtration, aggregation, and the enzymic activity of glycogen phosphorylase. Biochemistry, 1970, 9, 2048-2058.	1.2	40
46	Identification and characterization of a unique Xenopus laevis egg envelope component, ZPD. Development Growth and Differentiation, 2002, 44, 205-212.	0.6	40
47	A gel eluter for recovery of proteins separated by polyacrylamide gel electrophoresis. Analytical Biochemistry, 1982, 126, 116-121.	1.1	39
48	A hatching enzyme substrate in the Xenopus laevis egg envelope is a high molecular weight ZPA homolog. Development Growth and Differentiation, 2001, 43, 305-313.	0.6	39
49	[78] Preparation of reduced phosphorylase by use of sodium borohydride. Methods in Enzymology, 1967, 11, 671-675.	0.4	38
50	Proteolysis of Xenopus laevis egg envelope ZPA triggers envelope hardening. Biochemical and Biophysical Research Communications, 2004, 324, 648-654.	1.0	38
51	Method for the Comparative Glycomic Analyses of O-Linked, Mucin-Type Oligosaccharides. Analytical Chemistry, 2004, 76, 5186-5197.	3.2	37
52	Chapter 12 Isolation of Extracellular Matrix Structures from Xenopus laevis Oocytes, Eggs, and Embryos. Methods in Cell Biology, 1991, 36, 231-247.	0.5	34
53	Identification of the ZPC Oligosaccharide Ligand Involved in Sperm Binding and the Glycan Structures of Xenopus laevis Vitelline Envelope Glycoproteins1. Biology of Reproduction, 2003, 69, 1822-1830.	1.2	34
54	The Metabolism of Hydroxypyruvate. Journal of Biological Chemistry, 1961, 236, 1867-1871.	1.6	33

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55	Isolation and Characterization of Ovochymase, a Chymotrypsin-like Protease Released during Xenopus laevis Egg Activation. Developmental Biology, 1995, 167, 513-516.	0.9	32
56	Characterization of the aggregated states of glycogen phosphorylases by gel electrophoresis. Biochemistry, 1969, 8, 4012-4019.	1.2	31
57	N-acetyl-?-D-glucosaminidase activity in the cortical granules ofXenopus laevis eggs. Gamete Research, 1985, 12, 305-312.	1.7	30
58	Occurrence of reducing terminal N-acetylglucosamine 3-sulfate and fucosylated outer chains in acidic N-glycans of porcine zona pellucida glycoproteins. Glycoconjugate Journal, 1998, 15, 447-456.	1.4	29
59	Targeted use of exoglycosidase digestion for the structural elucidation of neutral O-linked oligosaccharides. Journal of the American Society for Mass Spectrometry, 2001, 12, 877-884.	1.2	28
60	Subunit structure of a cortical granule lectin involved in the block to polyspermy in Xenopus laevis eggs. FEBS Letters, 1986, 206, 353-357.	1.3	27
61	Enzymatic and envelope-converting activities of pars recta oviductal fluid from Xenopus laevis. Developmental Biology, 1990, 138, 169-176.	0.9	27
62	Profiling the morphological distribution of O-linked oligosaccharides. Analytical Biochemistry, 2004, 334, 20-35.	1.1	27
63	The hatching enzyme from xenopus laevis: Limited proteolysis of the fertilization envelope. Journal of Supramolecular Structure and Cellular Biochemistry, 1981, 15, 111-117.	1.4	26
64	The nonoxidative decarboxylation of hydroxypyruvate in mammalian systems. Archives of Biochemistry and Biophysics, 1964, 105, 261-269.	1.4	22
65	Vitelline Envelope of Bufo arenarum: Biochemical and Biological Characterization1. Biology of Reproduction, 2002, 66, 1203-1209.	1.2	22
66	Egg envelope conversion following fertilization in Bufo japonicus. Developmental Biology, 1988, 130, 37-44.	0.9	21
67	The Xenopus laevis cortical granule lectin: cDNA cloning, developmental expression, and identification of the eglectin family of lectins. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2004, 137, 115-129.	0.8	21
68	An optical rotary dispersion study of glycogen phosphorylase. Archives of Biochemistry and Biophysics, 1966, 114, 216-222.	1.4	20
69	The Incorporation and Fate of [35S]-Sulfate in the Jelly Coat of Xenopus laevis Eggs. Biology of Reproduction, 1974, 11, 534-542.	1.2	20
70	Identification ofXenopus laevis sperm and egg envelope binding components on nitrocellulose membranes. The Journal of Experimental Zoology, 1988, 245, 286-293.	1.4	20
71	The Inhibition of Boar Acrosin Amidase Activity by Sulfated Polysaccharides. Biological Chemistry Hoppe-Seyler, 1988, 369, 727-732.	1.4	20
72	Localization of a chymotrypsin-like protease to the perivitelline space of Xenopus laevis eggs. Developmental Biology, 1992, 154, 433-436.	0.9	19

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73	Profiling with structural elucidation of the neutral and anionic O-linked oligosaccharides in the egg jelly coat of Xenopus laevis by Fourier transform mass spectrometry. Glycoconjugate Journal, 2001, 18, 309-320.	1.4	19
74	Radioiodination studies of the envelopes from Xenopus laevis eggs. Journal of Cellular Biochemistry, 1983, 22, 235-244.	1.2	18
75	Proteolysis of the zona pellucida by acrosin: The nature of the hydrolysis products. The Journal of Experimental Zoology, 1985, 236, 239-243.	1.4	18
76	Structure determination by MALDI-IRMPD mass spectrometry and exoglycosidase digestions of O-linked oligosaccharides from Xenopus borealis egg jelly. Glycobiology, 2011, 21, 877-894.	1.3	17
77	Collision-Induced Dissociation Tandem Mass Spectrometry for Structural Elucidation of Glycans. , 2009, 534, 133-145.		17
78	Comparative studies ofBufo andXenopus vitelline coat molecular transformations induced by homologous and heterologous oviducal pars recta proteases. The Journal of Experimental Zoology, 1987, 244, 145-150.	1.4	16
79	Bufo japonicus japonicus andXenopus laevis laevis egg jellies contain structurally related antigens and cortical granule lectin ligands. The Journal of Experimental Zoology, 1988, 245, 78-85.	1.4	14
80	The disulfide bond pattern of Salmon Egg Lectin 24K from the Chinook salmon Oncorhynchus tshawytscha. Archives of Biochemistry and Biophysics, 2007, 463, 1-11.	1.4	14
81	Treatment ofXenopus laevis coelomic eggs with trypsin mimics pars recta oviductal transit by selectively hydrolyzing envelope glycoprotein gp43, increasing sperm binding to the envelope, and rendering eggs fertilizable. The Journal of Experimental Zoology, 1998, 281, 132-138.	1.4	13
82	Identification and Structural Elucidation of Lectin-Binding Oligosaccharides by Bioaffinity Matrix-Assisted Laser Desorption/Ionization Fourier Transform Mass Spectrometry. Analytical Chemistry, 2001, 73, 3556-3561.	3.2	13
83	Infrared Multiphoton Dissociation Mass Spectrometry for Structural Elucidation of Oligosaccharides. , 2009, 534, 23-35.		13
84	The Enzymatic Characteristics and the Control of Glycogen Phosphorylase during Early Amphibian Development. Journal of Biological Chemistry, 1972, 247, 6603-6609.	1.6	13
85	Gas-phase scrambling of disulfide bonds during matrix-assisted laser desorption/ionization mass spectrometry analysis. Journal of the American Society for Mass Spectrometry, 2009, 20, 1603-1616.	1.2	12
86	Effect of Prostaglandins on the Velocity of the Reaction Between Human Renin and Homologous Renin Substrate. Journal of Clinical Endocrinology and Metabolism, 1974, 39, 530-535.	1.8	11
87	Distribution of Lectin Binding Sites in Xenopus laevis Egg Jelly. Developmental Biology, 1999, 210, 428-439.	0.9	11
88	The Metabolism of Hydroxypyruvate. Journal of Biological Chemistry, 1961, 236, 1872-1875.	1.6	10
89	Active-site studies on rabbit liver nicotinamide deamidase. Biochemistry, 1972, 11, 1508-1517.	1.2	9
90	[79] Preparation of apophosphorylase b by use of deforming agents. Methods in Enzymology, 1967, 11, 675-677.	0.4	8

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91	Structureâ€”Function Properties of the Sperm Enzyme Acrosin. ACS Symposium Series, 1989, , 215-229.	0.5	8
92	Dichromatic Staining of Electrophoretically Separated Extracellular Matrix Macromolecules. Analytical Biochemistry, 1999, 271, 91-93.	1.1	8
93	The use of radioiodinated protein substrates for the assay of trypsin and the hatching enzyme from the amphibian Xenopus laevis. Analytical Biochemistry, 1979, 100, 352-356.	1.1	7
94	Crystallization and X-ray analysis of the salmon-egg lectin SEL24K. Acta Crystallographica Section F: Structural Biology Communications, 2007, 63, 396-398.	0.7	6
95	A micromethod for the estimation of oligosaccharides containing glycosidically linked sialic acid or hexoses, or both, in glycoproteins. Carbohydrate Research, 1988, 176, 195-203.	1.1	5
96	Oviductal Localization of the Cortical Granule Lectin Ligand Involved in the Block to Polyspermy of Xenopus Laevis. (CGL/polyspermy/fertilization/Xenopus/oviduct). Development Growth and Differentiation, 1994, 36, 615-620.	0.6	5
97	Localization of cortical granule lectin ligand in Xenopus laevis egg jelly. Development Growth and Differentiation, 1996, 38, 647-652.	0.6	5
98	Fertilisation in fish: a cortical alveolar lectin and its potential role in the block to polyspermy. Zygote, 1999, 8, S66-S66.	0.5	5
99	Sialic acid-specific lectin participates in an immune response and ovarian development of the banana shrimp Fenneropenaeus merguiensis. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2017, 203, 132-140.	0.7	5
100	Immunoelectophoretic Identification of Jelly Coat Ligands Bound by the Cortical Granule Lectin from Xenopus laevis Eggs. (anuran fertilization/egg jelly/lectin/Xenopus laevis/immunoelectrophoresis). Development Growth and Differentiation, 1992, 34, 91-98.	0.6	2
101	In situ pH measurements of the Syrian hamster uterus during early pregnancy to determine the role of pH in zona pellucida loss in vivo. Reproduction, Fertility and Development, 2000, 12, 105.	0.1	2
102	Effects of High-Energy Shock Waves on Rapidly Proliferating Cells: African Clawed Toad (<i>Xenopus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.1	1
103	Analysis and Content of ATP in Spermatozoa of Honeybees. Journal of Apicultural Research, 1987, 26, 150-155.	0.7	0