Jay M Baltz

List of Publications by Year
in descending order

84 papers	3,179 citations	109264 35 h-index	168321 53 g-index
85 all docs	85 docs citations	85 times ranked	2237 citing authors

#	Article	IF	Citations
1	Dense Fibers Protect Mammalian Sperm Against Damage1. Biology of Reproduction, 1990, 43, 485-491.	1.2	149
2	Metabolic regulation in mammalian sperm: Mitochondrial volume determines sperm length and flagellar beat frequency. Cytoskeleton, 1991, 19, 180-188.	4.4	144
3	Delay in oocyte aging in mice by the antioxidant N-acetyl-l-cysteine (NAC). Human Reproduction, 2012, 27, 1411-1420.	0.4	132
4	Organic Osmolytes and Embryos: Substrates of the Gly and Î² Transport Systems Protect Mouse Zygotes against the Effects of Raised Osmolarity1. Biology of Reproduction, 1997, 56, 1550-1558.	1.2	115
5	Osmolarity-Dependent Glycine Accumulation Indicates a Role for Glycine as an Organic Osmolyte in Early Preimplantation Mouse Embryos1. Biology of Reproduction, 1998, 59, 225-232.	1.2	108
6	The glycine neurotransmitter transporter GLYT1 is an organic osmolyte transporter regulating cell volume in cleavage-stage embryos. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 13982-13987.	3.3	99
7	Cell volume regulation in oocytes and early embryos: connecting physiology to successful culture media. Human Reproduction Update, 2010, 16, 166-176.	5.2	98
8	Inhibition of MEK or cdc2 Kinase Parthenogenetically Activates Mouse Eggs and Yields the Same Phenotypes as Mosâ^'/â^' Parthenogenotes. Developmental Biology, 2002, 247, 210-223.	0.9	95
9	Expression and Function of Bicarbonate/Chloride Exchangers in the Preimplantation Mouse Embryo. Journal of Biological Chemistry, 1995, 270, 24428-24434.	1.6	77
10	Granulosa cells regulate intracellular pH of the murine growing oocyte via gap junctions: development of independent homeostasis during oocyte growth. Development (Cambridge), 2006, 133, 591-599.	1.2	74
11	Cell volume regulation is initiated in mouse oocytes after ovulation. Development (Cambridge), 2009, 136, 2247-2254.	1.2	72
12	Regulation of Intracellular pH in Hamster Preimplantation Embryos by theSodium Hydrogen (Na+/H+) Antiporter1. Biology of Reproduction, 1998, 59, 1483-1490.	1.2	63
13	Na+/H+Antiporter Activity in Hamster Embryos Is Activated during Fertilization. Developmental Biology, 1999, 208, 244-252.	0.9	63
14	Apparent absence of antiport activity in the two-cell mouse embryo. Developmental Biology, 1990, 138, 421-429.	0.9	62
15	Regulation of intracellular pH during oocyte growth and maturation in mammals. Reproduction, 2009, 138, 619-627.	1.1	62
16	Estimates of Mouse Oviductal Fluid Tonicity Based on Osmotic Responses of Embryos1. Biology of Reproduction, 1999, 60, 1188-1193.	1.2	61
17	Similar Effects of Osmolarity, Glucose, and Phosphate on Cleavage past the 2-Cell Stage in Mouse Embryos from Outbred and F1 Hybrid Females1. Biology of Reproduction, 2005, 72, 179-187.	1.2	61
18	Intracellular pH Regulation by HCOâ^'3/Clâ^'Exchange Is Activated during Early Mouse Zygote Development. Developmental Biology, 1999, 208, 392-405.	0.9	58

#	ARTICLE	IF	CITATIONS
19	Zinc is a possible toxic contaminant of silicone oil in microdrop cultures of preimplantation mouse embryos. Human Reproduction, 1995, 10, 3248-3254.	0.4	53
20	Amino Acid Transport Mechanisms in Mouse Oocytes During Growth and Meiotic Maturation1. Biology of Reproduction, 2009, 81, 1041-1054.	1.2	53
21	Bicarbonate/Chloride Exchange Regulates Intracellular pH of Embryos but Not Oocytes of the Hamster1. Biology of Reproduction, 1999, 61, 452-457.	1.2	52
22	Synaptotagmin VI and VIII and Syntaxin 2 Are Essential for the Mouse Sperm Acrosome Reaction. Journal of Biological Chemistry, 2005, 280, 20197-20203.	1.6	50
23	Granulosa cells regulate oocyte intracellular pH against acidosis in preantral follicles by multiple mechanisms. Development (Cambridge), 2007, 134, 4283-4295.	1.2	50
24	Prophase I Arrest of Mouse Oocytes Mediated by Natriuretic Peptide Precursor C Requires GJA1 (connexin-43) and GJA4 (connexin-37) Gap Junctions in the Antral Follicle and Cumulus-Oocyte Complex1. Biology of Reproduction, 2014, 90, 137.	1.2	50
25	Regulation of intracellular glycine as an organic osmolyte in early preimplantation mouse embryos. Journal of Cellular Physiology, 2005, 204, 273-279.	2.0	49
26	The Intracellular pH-regulatory HCO3âˆ'/Clâˆ'Exchanger in the Mouse Oocyte Is Inactivated during First Meiotic Metaphase and Reactivated after Egg Activation via the MAP Kinase Pathway. Molecular Biology of the Cell, 2002, 13, 3800-3810.	0.9	47
27	SIT1 is a betaine/proline transporter that is activated in mouse eggs after fertilization and functions until the 2-cell stage. Development (Cambridge), 2008, 135, 4123-4130.	1.2	46
28	Osmoregulation and cell volume regulation in the preimplantation embryo. Current Topics in Developmental Biology, 2001, 52, 55-106.	1.0	45
29	The organic osmolytes betaine and proline are transported by a shared system in early preimplantation mouse embryos. Journal of Cellular Physiology, 2007, 210, 266-277.	2.0	45
30	Synaptotagmin VIII Is Localized to the Mouse Sperm Head and May Function in Acrosomal Exocytosis1. Biology of Reproduction, 2002, 66, 50-56.	1.2	44
31	Intracellular ion concentrations and their maintennance by Na⁺/K⁺-ATPase in preimplantation mouse embryos. Zygote, 1997, 5, 1-9.	0.5	43
32	Brefeldin A disrupts asymmetric spindle positioning in mouse oocytes. Developmental Biology, 2008, 313, 155-166.	0.9	43
33	Mechanisms regulating intracellular pH are activated during growth of the mouse oocyte coincident with acquisition of meiotic competence. Developmental Biology, 2005, 286, 352-360.	0.9	42
34	Intracellular pH regulation in the early embryo. BioEssays, 1993, 15, 523-530.	1.2	41
35	Betaine is a highly effective organic osmolyte but does not appear to be transported by established organic osmolyte transporters in mouse embryos. Molecular Reproduction and Development, 2002, 62, 195-202.	1.0	40
36	Rescue of Postcompaction-Stage Mouse Embryo Development from Hypertonicity by Amino Acid Transporter Substrates That May Function as Organic Osmolytes1. Biology of Reproduction, 2010, 82, 769-777.	1.2	39

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37	Volume-Regulated Anion and Organic Osmolyte Channels in Mouse Zygotes1. Biology of Reproduction, 1999, 60, 964-972.	1.2	35
38	Identifiability and Privacy in Pluripotent Stem Cell Research. Cell Stem Cell, 2014, 14, 427-430.	5.2	35
39	Cell volume regulation in mammalian oocytes and preimplantation embryos. Molecular Reproduction and Development, 2012, 79, 821-831.	1.0	34
40	Intracellular pH change does not accompany egg activation in the mouse. Molecular Reproduction and Development, 1996, 45, 52-60.	1.0	33
41	Both the folate cycle and betaineâ€homocysteine methyltransferase contribute methyl groups for DNA methylation in mouse blastocysts. FASEB Journal, 2015, 29, 1069-1079.	0.2	33
42	A serotonin receptor antagonist induces oocyte maturation in both frogs and mice: Evidence that the same G protein-coupled receptor is responsible for maintaining meiosis arrest in both species. Journal of Cellular Physiology, 2005, 202, 777-786.	2.0	32
43	Media Composition: Salts and Osmolality. , 2012, 912, 61-80.		31
44	?-Alanine but not taurine can function as an organic osmolyte in preimplantation mouse embryos cultured from fertilized eggs. Molecular Reproduction and Development, 2003, 66, 153-161.	1.0	30
45	Oxygen transport to embryos in microdrop cultures. Molecular Reproduction and Development, 1991, 28, 351-355.	1.0	29
46	Differences in Intracellular pH Regulation by Na+/H+ Antiporter among Two-Cell Mouse Embryos Derived from Females of Different Strains1. Biology of Reproduction, 2001, 65, 14-22.	1.2	29
47	Mouse Embryos Stressed by Physiological Levels of Osmolarity Become Arrested in the Late 2-Cell Stage Before Entry into M Phase1. Biology of Reproduction, 2011, 85, 702-713.	1.2	28
48	Routes of Clâˆ’Transport across the Trophectoderm of the Mouse Blastocyst. Developmental Biology, 1997, 189, 148-160.	0.9	27
49	Betaine Homocysteine Methyltransferase Is Active in the Mouse Blastocyst and Promotes Inner Cell Mass Development. Journal of Biological Chemistry, 2012, 287, 33094-33103.	1.6	27
50	Uptake of Betaine into Mouse Cumulus-Oocyte Complexes via the SLC7A6 Isoform of y+L Transporter1. Biology of Reproduction, 2014, 90, 81.	1.2	27
51	Developmentally regulated cell cycle dependence of swelling-activated anion channel activity in the mouse embryo. Development (Cambridge), 2001, 128, 3427-3434.	1.2	27
52	HCO3âˆ’/Clâˆ’ Exchange Inactivation and Reactivation during Mouse Oocyte Meiosis Correlates with MEK/MAPK-Regulated Ae2 Plasma Membrane Localization. PLoS ONE, 2009, 4, e7417.	1.1	20
53	Folate Transport in Mouse Cumulus-Oocyte Complexes and Preimplantation Embryos1. Biology of Reproduction, 2013, 89, 63.	1.2	20
54	Research ethics and stem cells. EMBO Reports, 2015, 16, 2-6.	2.0	20

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55	On the number and rate of formation of sperm-zona bonds in the mouse. Gamete Research, 1989, 24, 1-8.	1.7	18
56	Stimulation of cortical actin polymerization in the sea urchin egg cortex by NH4Cl procaine and urethane: Elevation of cytoplasmic pH is not the common mechanism of action. , 1996, 35, 210-224.		18
57	JAK2 mediates the acute response to decreased cell volume in mouse preimplantation embryos by activating NHE1. Journal of Cellular Physiology, 2013, 228, 428-438.	2.0	16
58	Paternal MTHFR deficiency leads to hypomethylation of young retrotransposons and reproductive decline across two successive generations. Development (Cambridge), 2021, 148, .	1.2	15
59	Fluorophore toxicity in mouse eggs and zygotes. Zygote, 1998, 6, 113-123.	0.5	14
60	Growing Mouse Oocytes Transiently Activate Folate Transport via Folate Receptors As They Approach Full Size1. Biology of Reproduction, 2016, 94, 125.	1.2	14
61	Mouse Oocytes Acquire Mechanisms That Permit Independent Cell Volume Regulation at the End of Oogenesis. Journal of Cellular Physiology, 2017, 232, 2436-2446.	2.0	13
62	The strength of non-covalent biological bonds and adhesions by multiple independent bonds. Journal of Theoretical Biology, 1990, 142, 163-178.	0.8	12
63	Expression and transient nuclear translocation of proprotein convertase 1 (PC1) during mouse preimplantation embryonic development. Molecular Reproduction and Development, 2005, 72, 483-493.	1.0	12
64	Connections between preimplantation embryo physiology and culture. Journal of Assisted Reproduction and Genetics, 2013, 30, 1001-1007.	1.2	12
65	Initiation of cell volume regulation and unique cell volume regulatory mechanisms in mammalian oocytes and embryos. Journal of Cellular Physiology, 2021, 236, 7117-7133.	2.0	12
66	Second Meiotic Spindle Integrity Requires MEK/MAP Kinase Activity in Mouse Eggs. Journal of Reproduction and Development, 2009, 55, 30-38.	0.5	11
67	NHE1 Is the Sodium-Hydrogen Exchanger Active in Acute Intracellular pH Regulation in Preimplantation Mouse Embryos. Biology of Reproduction, 2013, 88, 157-157.	1.2	11
68	Preovulatory suppression of mouse oocyte cell volume-regulatory mechanisms is via signalling that is distinct from meiotic arrest. Scientific Reports, 2017, 7, 702.	1.6	11
69	Betaine is accumulated via transient choline dehydrogenase activation during mouse oocyte meiotic maturation. Journal of Biological Chemistry, 2017, 292, 13784-13794.	1.6	11
70	Measuring Transport and Accumulation of Radiolabeled Substrates in Oocytes and Embryos. Methods in Molecular Biology, 2013, 957, 163-178.	0.4	10
71	Research on Human Embryos and Reproductive Materials: Revisiting Canadian Law and Policy. Healthcare Policy, 2018, 13, 10-19.	0.3	7
72	Na⁺/H⁺ exchange is inactivated during mouse oocyte meiosis, facilitating glycine accumulation that maintains embryo cell volume. Journal of Cellular Physiology, 2013, 228, 2042-2053.	2.0	6

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73	Acute cell volume regulation by Janus kinase 2-mediated sodium/hydrogen exchange activation develops at the late one-cell stage in mouse preimplantation embryos. Biology of Reproduction, 2017, 96, 542-550.	1.2	5
74	<scp>l</scp>â€Serine transport in growing and maturing mouse oocytes. Journal of Cellular Physiology, 2020, 235, 8585-8600.	2.0	4
75	The REDIH experience: an emerging design to develop an effective training program for graduate students in reproductive science. Advances in Medical Education and Practice, 2013, 4, 201.	0.7	2
76	pH-Regulatory Mechanisms in the Mammalian Oocyte and Early Embryo. , 2003, , 123-136.		2
77	Focal adhesion kinase PTK2 autophosphorylation is not required for the activation of sodiumâ€“hydrogen exchange by decreased cell volume in the preimplantation mouse embryo. Zygote, 2019, 27, 173-179.	0.5	1
78	Amino acid carryover in the subzonal space of mouse fertilized ova affects subsequent transport kinetics. Zygote, 2009, 17, 281-287.	0.5	0
79	Osmolality. , 0, , 132-141.		0
80	Training Program in Reproduction, Early Development, and the Impact on Health (REDIH): Four Year Program Evaluation. Procedia, Social and Behavioral Sciences, 2015, 191, 2704-2709.	0.5	0
81	John D. Biggers (1923â€“2018). Molecular Reproduction and Development, 2018, 85, 744-745.	1.0	0
82	Expression and Function of Sodium/Hydrogen Exchangers in Preimplantation Mouse Embryos.. Biology of Reproduction, 2012, 87, 202-202.	1.2	0
83	The Mechanism of Betaine Accumulation by Mouse Oocytes.. Biology of Reproduction, 2012, 87, 297-297.	1.2	0
84	5,10-Methylenetetrahydrofolate reductase becomes phosphorylated during meiotic maturation in mouse oocytes. Zygote, 0, , 1-15.	0.5	0