Jay M Baltz

List of Publications by Citations

82 papers	2,661 citations	33 h-index	48 g-index
85 ext. papers	2,865 ext. citations	4.3 avg, IF	4.97 L-index

#	Paper	IF	Citations
82	Dense fibers protect mammalian sperm against damage. *Biology of Reproduction*, **1990**, 43, 485-91	3.9	136
81	Metabolic regulation in mammalian sperm: mitochondrial volume determines sperm length and flagellar beat frequency. *Cytoskeleton*, **1991**, 19, 180-8		120
80	Organic osmolytes and embryos: substrates of the Gly and beta transport systems protect mouse zygotes against the effects of raised osmolarity. *Biology of Reproduction*, **1997**, 56, 1550-8	3.9	97
79	Osmolarity-dependent glycine accumulation indicates a role for glycine as an organic osmolyte in early preimplantation mouse embryos. *Biology of Reproduction*, **1998**, 59, 225-32	3.9	93
78	Delay in oocyte aging in mice by the antioxidant N-acetyl-L-cysteine (NAC). *Human Reproduction*, **2012**, 27, 1411-20	5.7	92
77	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, 13982-7	11.5	88
76	Inhibition of MEK or cdc2 kinase parthenogenetically activates mouse eggs and yields the same phenotypes as Mos(-/-) parthenogenotes. *Developmental Biology*, **2002**, 247, 210-23	3.1	86
75	Cell volume regulation in oocytes and early embryos: connecting physiology to successful culture media. *Human Reproduction Update*, **2010**, 16, 166-76	15.8	81
74	Expression and function of bicarbonate/chloride exchangers in the preimplantation mouse embryo. *Journal of Biological Chemistry*, **1995**, 270, 24428-34	5.4	65
73	Cell volume regulation is initiated in mouse oocytes after ovulation. *Development (Cambridge)*, **2009**, 136, 2247-54	6.6	58
72	Granulosa cells regulate intracellular pH of the murine growing oocyte via gap junctions: development of independent homeostasis during oocyte growth. *Development (Cambridge)*, **2006**, 133, 591-9	6.6	58
71	Regulation of intracellular pH in hamster preimplantation embryos by the sodium hydrogen (Na+/H+) antiporter. *Biology of Reproduction*, **1998**, 59, 1483-90	3.9	57
70	Estimates of mouse oviductal fluid tonicity based on osmotic responses of embryos. *Biology of Reproduction*, **1999**, 60, 1188-93	3.9	56
69	Na+/H+ antiporter activity in hamster embryos is activated during fertilization. *Developmental Biology*, **1999**, 208, 244-52	3.1	56
68	Apparent absence of Na+/H+ antiport activity in the two-cell mouse embryo. *Developmental Biology* , **1990**, 138, 421-9	3.1	56
67	Intracellular pH regulation by HCO3-/Cl- exchange is activated during early mouse zygote development. *Developmental Biology*, **1999**, 208, 392-405	3.1	53
66	Similar effects of osmolarity, glucose, and phosphate on cleavage past the 2-cell stage in mouse embryos from outbred and F1 hybrid females. *Biology of Reproduction*, **2005**, 72, 179-87	3.9	50

65	Bicarbonate/chloride exchange regulates intracellular pH of embryos but not oocytes of the hamster. *Biology of Reproduction*, **1999**, 61, 452-7	3.9	50
64	Regulation of intracellular pH during oocyte growth and maturation in mammals. *Reproduction*, **2009**, 138, 619-27	3.8	47
63	Synaptotagmin VI and VIII and syntaxin 2 are essential for the mouse sperm acrosome reaction. *Journal of Biological Chemistry*, **2005**, 280, 20197-203	5.4	45
62	Regulation of intracellular glycine as an organic osmolyte in early preimplantation mouse embryos. *Journal of Cellular Physiology*, **2005**, 204, 273-9	7	44
61	Zinc is a possible toxic contaminant of silicone oil in microdrop cultures of preimplantation mouse embryos. *Human Reproduction*, **1995**, 10, 3248-54	5.7	44
60	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 complex. *Biology of Reproduction*, **2014**, 90, 137	3.9	43
59	The intracellular pH-regulatory HCO3-/Cl- 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, 3800-10	3.5	42
58	Granulosa cells regulate oocyte intracellular pH against acidosis in preantral follicles by multiple mechanisms. *Development (Cambridge)*, **2007**, 134, 4283-95	6.6	40
57	Synaptotagmin VIII is localized to the mouse sperm head and may function in acrosomal exocytosis. *Biology of Reproduction*, **2002**, 66, 50-6	3.9	40
56	Amino Acid transport mechanisms in mouse oocytes during growth and meiotic maturation. *Biology of Reproduction*, **2009**, 81, 1041-54	3.9	38
55	Brefeldin A disrupts asymmetric spindle positioning in mouse oocytes. *Developmental Biology*, **2008** , 313, 155-66	3.1	37
54	The organic osmolytes betaine and proline are transported by a shared system in early preimplantation mouse embryos. *Journal of Cellular Physiology*, **2007**, 210, 266-77	7	37
53	Mechanisms regulating intracellular pH are activated during growth of the mouse oocyte coincident with acquisition of meiotic competence. *Developmental Biology*, **2005**, 286, 352-60	3.1	37
52	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, 4123-30	6.6	36
51	Osmoregulation and cell volume regulation in the preimplantation embryo. *Current Topics in Developmental Biology*, **2001**, 52, 55-106	5.3	36
50	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	2.6	35
49	Intracellular pH regulation in the early embryo. *BioEssays*, **1993**, 15, 523-30	4.1	33
48	Rescue of postcompaction-stage mouse embryo development from hypertonicity by amino acid transporter substrates that may function as organic osmolytes. *Biology of Reproduction*, **2010**, 82, 769-77	3.9	32

47	Intracellular ion concentrations and their maintennance by Na+/K+ -ATPase in preimplantation mouse embroys. *Zygote*, **1997**, 5, 1-9	1.6	32
46	Volume-regulated anion and organic osmolyte channels in mouse zygotes. *Biology of Reproduction*, **1999**, 60, 964-72	3.9	31
45	Intracellular pH change does not accompany egg activation in the mouse. *Molecular Reproduction and Development*, **1996**, 45, 52-60	2.6	31
44	Both the folate cycle and betaine-homocysteine methyltransferase contribute methyl groups for DNA methylation in mouse blastocysts. *FASEB Journal*, **2015**, 29, 1069-79	0.9	29
43	Identifiability and privacy in pluripotent stem cell research. *Cell Stem Cell*, **2014**, 14, 427-30	18	29
42	Beta-alanine but not taurine can function as an organic osmolyte in preimplantation mouse embryos cultured from fertilized eggs. *Molecular Reproduction and Development*, **2003**, 66, 153-61	2.6	28
41	Cell volume regulation in mammalian oocytes and preimplantation embryos. *Molecular Reproduction and Development*, **2012**, 79, 821-31	2.6	27
40	Oxygen transport to embryos in microdrop cultures. *Molecular Reproduction and Development*, **1991**, 28, 351-5	2.6	27
39	Routes of Cl- transport across the trophectoderm of the mouse blastocyst. *Developmental Biology*, **1997**, 189, 148-60	3.1	26
38	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, 777-86	7	25
37	Differences in intracellular pH regulation by Na(+)/H(+) antiporter among two-cell mouse embryos derived from females of different strains. *Biology of Reproduction*, **2001**, 65, 14-22	3.9	25
36	Media composition: salts and osmolality. *Methods in Molecular Biology*, **2012**, 912, 61-80	1.4	24
35	Betaine homocysteine methyltransferase is active in the mouse blastocyst and promotes inner cell mass development. *Journal of Biological Chemistry*, **2012**, 287, 33094-103	5.4	24
34	Developmentally regulated cell cycle dependence of swelling-activated anion channel activity in the mouse embryo. *Development (Cambridge)*, **2001**, 128, 3427-3434	6.6	23
33	Mouse embryos stressed by physiological levels of osmolarity become arrested in the late 2-cell stage before entry into M phase. *Biology of Reproduction*, **2011**, 85, 702-13	3.9	21
32	Folate transport in mouse cumulus-oocyte complexes and preimplantation embryos. *Biology of Reproduction*, **2013**, 89, 63	3.9	17
31	HCO3(-)/Cl(-) exchange inactivation and reactivation during mouse oocyte meiosis correlates with MEK/MAPK-regulated Ae2 plasma membrane localization. *PLoS ONE*, **2009**, 4, e7417	3.7	17
30	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. *Cytoskeleton*, **1996**, 35, 210-24		17

29	Research ethics and stem cells: Is it time to re-think current approaches to oversight?. *EMBO Reports*, **2015**, 16, 2-6	6.5	16
28	Uptake of betaine into mouse cumulus-oocyte complexes via the SLC7A6 isoform of y+L transporter. *Biology of Reproduction*, **2014**, 90, 81	3.9	16
27	On the number and rate of formation of sperm-zona bonds in the mouse. *Gamete Research*, **1989**, 24, 1-8		16
26	JAK2 mediates the acute response to decreased cell volume in mouse preimplantation embryos by activating NHE1. *Journal of Cellular Physiology*, **2013**, 228, 428-38	7	13
25	Expression and transient nuclear translocation of proprotein convertase 1 (PC1) during mouse preimplantation embryonic development. *Molecular Reproduction and Development*, **2005**, 72, 483-93	2.6	12
24	Fluorophore toxicity in mouse eggs and zygotes. *Zygote*, **1998**, 6, 113-23	1.6	12
23	The strength of non-covalent biological bonds and adhesions by multiple independent bonds. *Journal of Theoretical Biology*, **1990**, 142, 163-78	2.3	12
22	Connections between preimplantation embryo physiology and culture. *Journal of Assisted Reproduction and Genetics*, **2013**, 30, 1001-7	3.4	11
21	Growing Mouse Oocytes Transiently Activate Folate Transport via Folate Receptors As They Approach Full Size. *Biology of Reproduction*, **2016**, 94, 125	3.9	11
20	Second meiotic spindle integrity requires MEK/MAP kinase activity in mouse eggs. *Journal of Reproduction and Development*, **2009**, 55, 30-8	2.1	10
19	NHE1 is the sodium-hydrogen exchanger active in acute intracellular pH regulation in preimplantation mouse embryos. *Biology of Reproduction*, **2013**, 88, 157	3.9	9
18	Measuring transport and accumulation of radiolabeled substrates in oocytes and embryos. *Methods in Molecular Biology*, **2013**, 957, 163-78	1.4	8
17	Betaine is accumulated via transient choline dehydrogenase activation during mouse oocyte meiotic maturation. *Journal of Biological Chemistry*, **2017**, 292, 13784-13794	5.4	7
16	Mouse Oocytes Acquire Mechanisms That Permit Independent Cell Volume Regulation at the End of Oogenesis. *Journal of Cellular Physiology*, **2017**, 232, 2436-2446	7	7
15	Research on Human Embryos and Reproductive Materials: Revisiting Canadian Law and Policy. *Healthcare Policy*, **2018**, 13, 10-19	1.1	7
14	Na+/H+ exchange is inactivated during mouse oocyte meiosis, facilitating glycine accumulation that maintains embryo cell volume. *Journal of Cellular Physiology*, **2013**, 228, 2042-53	7	6
13	Preovulatory suppression of mouse oocyte cell volume-regulatory mechanisms is via signalling that is distinct from meiotic arrest. *Scientific Reports*, **2017**, 7, 702	4.9	5
12	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	3.9	4

11	Initiation of cell volume regulation and unique cell volume regulatory mechanisms in mammalian oocytes and embryos. *Journal of Cellular Physiology*, **2021**, 236, 7117-7133	7	2
10	Paternal MTHFR deficiency leads to hypomethylation of young retrotransposons and reproductive decline across two successive generations. *Development (Cambridge)*, **2021**, 148,	6.6	2
9	pH-Regulatory Mechanisms in the Mammalian Oocyte and Early Embryo **2003**, 123-136		2
8	l-Serine transport in growing and maturing mouse oocytes. *Journal of Cellular Physiology*, **2020**, 235, 8585-8600	7	1
7	Focal adhesion kinase PTK2 autophosphorylation is not required for the activation of sodium-hydrogen exchange by decreased cell volume in the preimplantation mouse embryo. *Zygote*, **2019**, 27, 173-179	1.6	1
6	Osmolality132-141		
5	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		
4	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, 201-16	1.5	
3	Amino acid carryover in the subzonal space of mouse fertilized ova affects subsequent transport kinetics. *Zygote*, **2009**, 17, 281-7	1.6	
2	John D. Biggers (1923-2018). *Molecular Reproduction and Development*, **2018**, 85, 744-745	2.6	
1	5,10-Methylenetetrahydrofolate reductase becomes phosphorylated during meiotic maturation in mouse oocytes. *Zygote*,1-15	1.6	