PUBLICATIONS

2017 Lee S, Rivera OC, **Kelleher SL**. Zinc transporter 2 interacts with vacuolar ATPase and is required for polarization, vesicle acidification and secretion in mammary epithelial cells. The Journal of Biological Chemistry doi: 10.1074/jbc.M117.794461. [Epub ahead of print]

2017 Millett CE, Mukherjee D, Reider A, Can A, Groer M, Fuchs D, Postolache TT, **Kelleher SL**, Saunders EFH. Peripheral zinc and neopterin concentrations are associated with mood severity in bipolar disorder in a gender-specific manner. Psychiatry Research 17;255:52-58.

2017 Crowell KT, Phillips BE, **Kelleher SL**, Soybel DI, Lang CH. Immune and metabolic responses in early and late sepsis during mild dietary zinc restriction. Journal of Surgery Research 210:47-58.

2017 Carney M, Tarasiu A, DiAngelo S, Silveryra P, Podany A, Birch L, Paul I, **Kelleher SL** and Hicks S. Metabolism-related microRNAs in maternal breast milk are influenced by premature delivery. Pediatric Research, 82(2):226-236.

2016 M^{C}Cormick NH, Lee SY, **Hennigar SR and **Kelleher SL.** ZnT4 (*SLC30A4*) -null mice have impaired mammary gland development resulting in mammary hypoplasia and distinct lactation defects. American Journal of Physiology, Regulatory, Integrative, and Comparative Physiology, 310: R33-40.

2016 Chandler P, Kochupurakkal BS, Alam S, Richardson AL, Soybel DI, **Kelleher SL**. Subtype-specific accumulation of intracellular zinc pools is associated with the malignant phenotype in breast cancer, Molecular Cancer, 15: 2.

2016 Podany A, Wright J, Lamendella G, Soybel DI, **Kelleher SL**. ZnT2-mediated zinc import into Paneth cell granules is necessary for coordinated secretion and Paneth cell function in mice. Cellular and Molecular Gastroenterology and Hepatology, 2: 369-383.

2016 Lee SY and **Kelleher SL**. Biological underpinnings of breastfeeding challenges: the role of genetics, diet and environment on lactation physiology. American Journal of Physiology, Endocrinology and Metabolism, 311:E405-22.

2016 Lee SY and **Kelleher SL**. Molecular Regulation of lactation: The complex and requisite roles for zinc. Archives of Biochemistry and Biophysics, Dec 1;611:86-92.

2016 Crowell KT, **Kelleher SL**, Soybel DI, Lang CH. Marginal dietary zinc deprivation augments sepsis-induced alterations in skeletal muscle TNF-α but not protein synthesis. Physiological Reports, Nov;4(21). pii: e13017.

2016 Chacon AC, Phillips BE, Chacon MA, Brunke-Reese D, **Kelleher SL**, Soybel DI. Oral omega-3 fatty acids promote resolution in chemical peritonitis. Journal of Surgical Research, 206(1):190-198.

2015 M^{C}Cormick NH, Krebs N, King JC, Soybel DI and **Kelleher SL**. Redistribution of tissue zinc pools during lactation and dyshomeostasis during marginal zinc deficiency in mice. Journal of Trace Elements in Medicine and Biology, 19:59-71.

2015 Bostanci Z, Mack RP, Lee SY, Soybel DI and **Kelleher SL**. Paradoxical zinc toxicity and oxidative stress in the mammary gland during marginal dietary zinc deficiency. Reproductive Toxicology, 54:84-92. *Chosen as one of the most important papers of 2015; included in special supplement

2015 Hennigar SR, Seo YA, Sharma S and **Kelleher SL**. ZnT2 is a critical mediator of lysosomal-mediated cell death during early mammary gland involution. Scientific Reports, 5:8033 doi: 10.1038/srep08033.

2015 Ashmore JH, Rogers CJ, **Kelleher SL**, Lesko SM, Hartman TJ. Dietary Iron and Colorectal Cancer Risk: A Review of Human Population Studies. Critical Reviews in Food Science and Nutrition 2015 Jan 9. *epub*

2015 Hennigar SR and **Kelleher SL.** TNFα post-translationally targets ZnT2 to accumulate zinc in lysosomes. Journal of Cellular Physiology, 230:2345-2350.

2015 Lee S, Hennigar SR, Alam S, Nishida K, **Kelleher SL**. Essential Role for Zinc Transporter 2 (ZnT2)-mediated Zinc Transport in Mammary Gland Development and Function during Lactation. Journal of Biological Chemistry 290(21):13064-78.

2015 Alam S, Hennigar SR, Gallagher C, Soybel DI and **Kelleher SL.** Exome sequencing identifies loss- and gain-of-function variants in *SLC30A2* associated with breast cell function and breast milk composition. Journal of Mammary Gland Biology and Neoplasia, 20(3-4):159-72.

2015 Hennigar SR, Velasquez V and **Kelleher SL**. Obesity-induced inflammation is associated with alterations in subcellular zinc pools and premature mammary gland involution in lactating mice. Journal of Nutrition, 145:1999-2005.

2015 Hershfinkel M, Ford D, **Kelleher SL**, Aizeman E. Seashells by the zinc shore: a meeting report of the International Society for Zinc Biology, Asilomar, CA 2014. Metallomics 7:1299-1304.

2015 Bostanci Z, Mack Jr RP, Enomoto LM, Alam S, Brown A, Neumann C, Soybel DI, **Kelleher SL**. Marginal zinc intake reduces the protective effect of lactation on mammary gland carcinogenesis in a DMBA-induced tumor model in mice. Oncology Reports, *epub*

2015 Phillips B, Geletzke A, Smith P, Podany A, Chacon A, **Kelleher SL**, Patterson A, Soybel DI. Impaired recovery from peritoneal inflammation in a mouse model of mild dietary zinc restriction. Food and Molecular Nutrition Research, 60:672-681.

2014 Bostanci Z, Alam S, Soybel DI, **Kelleher SL**. Prolactin receptor attenuation induces zinc pool redistribution through ZnT2 and decreases invasion in MDA-MB-453 breast cancer cells. Experimental Cell Research 321:190-200.

2014 M^{c}Cormick NH, Hennigar SR, Kiselyov K, **Kelleher SL**. The biology of zinc transport in mammary epithelial cells: Implications for mammary gland development, lactation, and involution. Journal of Mammary Gland Biology and Neoplasia 19:59-741.

2014 Geletzke AK, Rinaldi JM, Phillips BE, Mobley SB, Miller J, Dykes T, Hollenbeak C, **Kelleher SL**, Soybel DI. Prevalence of Systemic Inflammation and Micronutrient

Imbalance in Patients with Complex Abdominal Hernias. Journal of Gastrointestinal Surgery 18:646-655.

2014 Kukic I, **Kelleher SL** and Kiselyov K. Zinc efflux through lysosomal exocytosis prevents zinc-induced toxicity. Journal of Cell Science, 127:3094-3103.

2014 Seo YA, Lee SY, Hennigar SR and **Kelleher SL**. Prolactin-stimulated ubiquitination and degradation of the zinc transporter ZnT2 regulates zinc secretion in mammary cells. Journal of Biological Chemistry, 289:23656-23661.

2013 Kukic I, Lee JK, Coblentz JR, **Kelleher SL**, Kiselyov K. Zinc-dependent lysosomal enlargement in TRPML1- deficient cells involves MTF-1 transcription factor and ZnT4 (Slc30a4) transporter. Biochemical Journal 451(2):155-63.

2012 **Kelleher SL**, Velasquez V, Croxford TP, McCormick NH, Lopez V, MacDavid J. Mapping the zinc-transporting system in mammary cells: molecular analysis reveals a phenotype-dependent zinc-transporting network during lactation. Journal of Cellular Physiology, 227(4):1761-70.

2012 **Kelleher SL**, M^{C}Cormick NH, Velasquez V, Lopez V. Zinc in specialized secretory tissues: roles in the pancreas, prostate, and mammary gland. Advances in Nutrition, 2(2):101-11.

2012 Dempsey C, M^{C}Cormick NH, Croxford TP, Seo YA, Grider A, **Kelleher SL**. Marginal maternal zinc deficiency in lactating mice reduces secretory capacity and alters milk composition. Journal of Nutrition, 142(4):655-60.

2012 M^{C}Cormick NH and **Kelleher SL.** ZnT4 provides zinc to zinc-dependent proteins in the trans-Golgi network critical for cell function and Zn export in mammary epithelial cells. American Journal of Physiology, Cell Physiology, American Journal of Physiology, Cell Physiology, 303:C291-C297.

2012 Alam SR and **Kelleher SL**. Cellular mechanisms of zinc dysregulation: A perspective on zinc homeostasis as an etiological factor in the development and progression of breast cancer. Nutrients: Zinc in Health and Disease, 4:875-903.

2012 Hennigar SR and **Kelleher SL**. Zinc networks: the cell-specific compartmentalization of zinc for specialized functions. Biological Chemistry, 393:565-578.

2012 Lasry I, Seo YA, Ityel H, Shalava N, Pode-Shakked B, Glaser F, Berman B, Berezovsky I, Gonceatenco A, Klar A, Levy J, Anikster Y, **Kelleher SL**, Assarf YG. A dominant negative heterozygous G87R mutation in ZnT-2 (SLC30A2) results in transient neonatal zinc deficiency. Journal of Biological Chemistry, 287:29348-29361.

2011 Seo YA, Lopez V and **Kelleher SL**. A histidine-rich motif mediates mitochondrial localization of ZnT2 to modulate mitochondrial function. American Journal of Physiology, Cell Physiology, 33:C1479-1489.

2011 Croxford T, McCormick N and **Kelleher SL.** Moderate zinc deficiency reduces testicular Zip6 and Zip10 abundance and impairs spermatogenesis in mice. Journal of Nutrition, 141:359-365.

2011 Rodriguez-Cruz M, Sánchez R, Sánchez A, **Kelleher SL**, Sánchez-Muñoz F, Maldonado, J and López-Alarcón M, Participation of mammary gland in long-chain polyunsaturated fatty acid synthesis during pregnancy and lactation in rats. Biohchemica Biophysica Acta: Molecular and Cell Biology of Lipids, 1811:284-293.

2011 Lopez V, Foolad F and **Kelleher SL**. ZnT2 overexpression represses the cytotoxic effects of zinc hyperaccumulation in malignant metallothionein-null T47D breast tumor cells. Cancer Letters, 304:41-51.

2011 Hossain MB, **Kelleher SL** and Lönnerdal B. Maternal iron and zinc supplementation of iron and zinc deficient rats during pregnancy affects intestinal iron absorption and transporter expression in their pups at weaning. Journal of Nutrition, 141:798-804.

2011 **Kelleher SL** and Haas JD. Introduction to Iron Works: The John Beard memorial Symposium. Journal of Nutrition, 141:722S-723S.

2011 Jiang R, Lopez V, **Kelleher SL** and Lönnerdal B. Apo- and holo-lactoferrin are both internalized by lactoferrin receptor via clathrin-mediated endocytosis but differentially affect ERK-signaling and cell proliferation in Caco-2 cells. Journal of Cellular Physiology, i226:3022-3031.

2010 Lopez V, **Kelleher SL**. Zip6 attenuation promotes epithelial-to-mesenchymal transition in ductal breast tumor (T47D) cells. Experimental Cell Research, 316:366-375.

2010 M^{C}Cormick N, **Velasquez V, Finney L, Vogt S and **Kelleher SL**. X-ray fluorescence microscopy reveals accumulation and secretion of intracellular zinc pools in the lactating mammary gland. PLoS One, 5:e11078.

2010 Jou MY, Philipps AF, **Kelleher SL** and Lönnerdal B. Effects of zinc exposure on zinc transporter expression in human intestinal cells of varying maturity. Journal of Pediatric Gastroenterology and Nutrition, 50:587-595.

2010 Seo YA and **Kelleher SL**. Functional analysis of two single nucleotide polymorphisms in SLC30A2 (ZnT2): Implications for mammary gland function and breast disease in women. Physiological Genomics, 42A(4):219-27.

2009 Lönnerdal B, **Kelleher SL**. Micronutrient transfer: infant absorption. Advances in Experimental Medicine and Biology;639:29-40.

2009 **Kelleher SL**, Lönnerdal B. Nutrient transfer: mammary gland regulation. Advances in Experimental Medicine and Biology;639:15-27.

2009 Jou MY, Hall AG, Philipps AF, **Kelleher SL**, Lönnerdal B. Tissue-specific alterations in zinc transporter expression in intestine and liver reflect a threshold for homeostatic compensation during dietary zinc deficiency in weanling rats. Journal of Nutrition 39(5):835-41.

2009 **Kelleher SL**, Seo YA and Lopez V. Mammary gland zinc metabolism: Regulation and dysregulation. Genes and Nutrition, 4:83-94.

2009 **Kelleher SL**, Lopez V, Lonnerdal BL, Dufner-Beattie J, Andrews GK. Zip3 (Slc39a3) functions in zinc reuptake from the alveolar lumen in lactating mammary gland. American Journal of Physiology, Regulatory, Integrative and Comparative Physiology 291:R194-201.

2009 Qian L, Lopez V, Seo YA, **Kelleher SL**. Prolactin regulates ZnT2 expression through the JAK2/STAT5 signaling pathway in mammary cells. American Journal of Physiology Cell Physiology 297:C369-377.

2009 Lopez V, **Kelleher SL**. Zinc transporter-2 (ZnT2) variants are localized to distinct sub-cellular compartments and functionally transport zinc. Biochemical Journal 422:43-52.

2008 Lopez V, **Kelleher SL** and Lönnerdal B. Lactoferrin receptor mediates apo- but not holo-lactoferrin internalization via clathrin-mediated endocytosis in trophoblasts. Biochemical Journal*, epub*

2008 Chowanadisai W, Lönnerdal B and **Kelleher SL**. Zip6 (LIV-1) regulates zinc uptake in neuroblastoma cells under resting but not depolarizing conditions. Brain Research, 14;1199:10-9.

2008 **Kelleher SL** and Lönnerdal B. Nutrient transfer: Mammary gland regulation in Breast-Feeding: Early influences on Later Health, Springer Science +Business Media BV, UK, pp. 15-27.

2008 Lönnerdal B and **Kelleher SL**. Micronutrient transfer: Infant absorption in: Breast-Feeding: Early influences on Later Health, Springer Science +Business Media BV, UK, pp. 29-40.

2007 Raquib R, Hossain MB, **Kelleher SL**, Stephensen CB, Lönnerdal, B. Zinc supplementation of pregnant rats with adequate zinc nutriture suppresses immune functions in their offspring. Journal of Nutrition. 137(4):1037-42.

2007 Lönnerdal B, **Kelleher SL** Iron metabolism in infants and children.. Food and Nutrition Bulletin 2007 :S491-9.

2006 Ke X, Lei Q, James SJ, **Kelleher SL**, Melnyk S, Jernigan S, Yu X, Wang L, Calloway CW, Chan GM, Albertine KH, McKinght RA and Lane RH. Uteroplacental insufficiency affects epigenetic determinants of chromatin structure in the brains of neonatal and juvenile IUGR rats. Physiological Genomics 25: 16-28.

2006 **Kelleher SL** and Lönnerdal B. Zinc supplementation reduces iron absorption through age-dependent changes in small intestine iron transporter expression in suckling rat pups. Journal of Nutrition 136(5):1185-91.

2006 Bruck W, **Kelleher SL**, Gibson GR, Graverholt G and Lönnerdal B. The effects of alpha-lactalbumin and glycomacropeptide on the association of CaCo-2 cells by enteropathogenic Escherichia coli, Salmonella typhimurium and Shigella flexneri. FEMS Microbiological Letters 259(1):158-62.

2006 **Kelleher SL** and Lönnerdal B. Mammary gland copper transport is stimulated by prolactin

through alterations in Ctr1 and Atp7A localization. American Journal of Physiology, Regulatory, Integrative and Comparative Physiology, 291(4):R1181-91.

2006 **Kelleher SL**. Effects of age and mineral intake on the regulation of iron absorption in infants. Journal of Pediatrics, 149: S69-73.

2006 Chowanadisai W, Lönnerdal B and **Kelleher SL**. Identification of a mutation in SLC30A2 (ZnT2) in women with low milk zinc concentration that results in transient neonatal zinc deficiency. Journal of Biological Chemistry 281(51):39699-707.

2005 Bauerly KA, **Kelleher SL** and Lönnerdal B. Effects of copper supplementation on copper absorption, tissue distribution, and copper transporter expression in an infant rat model. American Journal of Physiology, Gastrointestinal Liver Physiology; 288:G1007-G1014.

2005 **Kelleher SL** and Lönnerdal B. Low vitamin A intake affects milk iron level and iron transporters in rat mammary gland and liver. Journal of Nutrition; 135:27-32.

2005 **Kelleher SL** and Lönnerdal B. Zip3 plays a major role in zinc uptake into mammary epithelial cells and is regulated by prolactin. American Journal of Physiology, Cell Physiology; 288:C1042-C1047.

2005 Chowanadisai W, **Kelleher SL**, Nemeth JF, Yachetti S, Kuhlman CF, Jackson JG, Davis AM, Lien EL and Lönnerdal B. Detection of a single nucleotide polymorphism in the human alpha-lactalbumin gene: implications for human milk proteins. Journal of Nutritional Biochemistry; 16:272-278.

2005 Chowanadisai W, **Kelleher SL** and Lönnerdal B. Zinc deficiency is associated with increased brain zinc import and LIV-1 expression and decreased ZnT-1 expression in neonatal rats. Journal of Nutrition; 135:1002-1007.

2005 Araya M, **Kelleher SL**, Arredondo MA, Sierralta W, Vial MT, Uauy R and Lönnerdal B. Effects of chronic copper exposure during early life in rhesus monkeys. American Journal of Clinical Nutrition; 81:1065-1071.

2005 Hall AG, **Kelleher SL**, Lönnerdal B and Philipps AF. A graded model of dietary zinc deficiency: effects on growth, insulin-like growth factor-I, and the glucose/insulin axis in weanling rats. Journal of Pediatric Gastroenterology and Nutrition 4:72-80.

2005 Chowanadisai W, **Kelleher SL** and Lönnerdal B. Maternal zinc deficiency reduces NMDA receptor expression in neonatal rat brain, which persists into early adulthood. Journal of Neurochemistry 94:510-519.

2005 **Kelleher SL** and Lönnerdal B. Molecular regulation of milk trace mineral homeostasis. Molecular Aspects of Medicine 26:328-339.

2004 Bauerly KA, **Kelleher SL** and Lönnerdal B. Functional and molecular responses of suckling rat pups and human intestinal Caco-2 cells to copper treatment. J Nutr Biochem, 15(3):155-62.

2004 Chowanadisai W, **Kelleher SL** and Lönnerdal B. Marginal maternal zinc intake increases plasma prolactin concentration during lactation in rats. Journal of Nutrition, 134:1314-

1319.

2003 Suzuki YA, **Kelleher SL**, Yalda D, Yu L, Huang J, Huang N and Lönnerdal B. Expression, characterization, and biologic activity of recombinant human lactoferrin in rice. Journal of Pediatric Gastroenterology and Nutrition, 36:190-9.

2003 **Kelleher SL**, Chatterton D, Neilsen K and Lönnerdal B. Glycomacropeptide and alpha-lactalbumin supplementation of infant formula effects growth and nutritional status of infant rhesus monkeys. American Journal of Clinical Nutrition, 77(5):1261-8.

2003 Bruck WM, **Kelleher SL**, Lönnerdal B, Nielsen K, Chatterton D and Gibson GR. Effects of enrichment of glycomacropeptide and □-lactalbumin on the intestinal flora of infant rhesus monkeys before and after experimental infection with enteropathogenic *Escherichia coli.* Journal of Pediatric Gastroenterology and Nutrition, 37(3):273-80.

2003 **Kelleher SL** and Lönnerdal B. Marginal zinc intake regulates mammary gland copper transport and affects neonatal copper metabolism. Journal of Nutrition, 133(7):2141-8.

2003 **Kelleher SL** and Lönnerdal B. Zinc transporter levels and localization change throughout lactation in rat mammary gland and are regulated by Zn in mammary cells. Journal of Nutrition 133(11):3378-85.

2002 **Kelleher SL**, Casas I, Carbajal N and Lönnerdal B. Supplementation of infant formula with the probiotic *Lactobacillus reuteri* and zinc: Impact on enteric infection and nutrition in infant rhesus monkeys. Journal of Pediatric Gastroenterology and Nutrition, 35: 162-168.

2002 Huang J, Wu L, Yalda D, Adkins Y, **Kelleher SL**, Crane M, Lönnerdal B, Rodriguez RL and Huang N. Expression of functional recombinant human lysozyme in transgenic rice cell culture. Transgenic Research, 11:229-239.

2002 **Kelleher SL** and Lönnerdal B. Zinc transporters in the rat mammary gland respond to marginal zinc and vitamin A intakes during lactation. Journal of Nutrition, 132 (11): 3280-3285.

2001 **Kelleher SL** and Lönnerdal B. Long-term marginal intakes of zinc and retinol affect retinol homeostasis without compromising circulating levels during lactation in rats. Journal of Nutrition, 131(12): 3237-42.

2001 **Kelleher SL** and Lönnerdal B. Immunological activities associated with milk. Advances in Nutrition Research, 10:39-65.

2001 Lönnerdal B, **Kelleher SL** and Lien E. Extent of thermal processing of infant formula affects copper status in infant rhesus monkeys. American Journal of Clinical Nutrition, 73(5): 914-9.

1996 Kellerman PS, **Norenberg (Kelleher) SL** and Jones GM. Early recovery of the actin cytoskeleton during renal ischemic injury in vivo. American Journal of Kidney Disease, 27:709-714.

1991 Dale GL, Daniels RB, Beckman J and **Norenberg (Kelleher) SL**. Characterization of

senescent red cells from the rabbit. Advances in Experimental and Medical Biology, 307:93-103.

1990 Dale GL and **Norenberg (Kelleher) SL.** Density fractionation of rabbit erythrocytes by percol/hypaque results in only a slight enrichment for aged cells. Biochemica Biophysica Acta, 1036:183-187.

1989 Dale GL and **Norenberg (Kelleher) SL.** Time-dependent loss of adenosin-5'-monophosphate deaminase activity may explain elevated levels of adenosine-5'-triphosphate in senescent erythrocytes. Blood, 74: 2157-2160.

1989 Dale GL, **Norenberg (Kelleher) SL**, Suzuki T and Forman L. Altered adenine nucleotide metabolism in senescent erythrocytes in the rabbit. Progress in Clinical Biological Research, 319:259-273.