



Younggeon Jin



Title: Intestinal barrier functions in digestive diseases

Research emphasis:

My doctoral dissertation focused on determining the role of chloride channel CIC-2 agonist in regulation of tight junction barrier using experimental inflammatory bowel disease (IBD) models. In my current research, I have developed a hypothesis indicating that CIC-2 regulates crypt homeostasis and tumorigenicity via regulation of the apical junctional complex. To investigate my hypothesis, I have developed a colitis-associated colorectal cancer model and an intestinal organoid 3D culture model in CIC-2^{+/+} and CIC-2^{-/-} mice. I continue to explore the role of the epithelial junctional complex in intestinal injury and tumor development.

Applications:

- Animal Models
- Intestinal barrier function
- Apical Junctional Complex
- Stem Cells

Research Strengths:

- Enteroid and colonoid culture
- Murine and porcine models
- Western blotting
- Confocal Microscopic Analysis

Publications and Abstracts:

Jin, Y. and Blikslager, A.T. (2016). Myosin light chain kinase mediates intestinal barrier dysfunction via occludin endocytosis during anoxia/reoxygenation injury. *American Journal of Physiology-Cell Physiology*, 311(6):C996-C1004

Jin, Y., Prigeon, T. A. and Blikslager, A. T. (2015). Pharmaceutical activation or genetic absence of CIC-2 alters tight junctions during experimental colitis. *Inflammatory Bowel Disease*, 21(12), 2747-57

Jin, Y. and Blikslager, A.T (2015) CIC-2 regulation of intestinal barrier function: Translation of basic science to therapeutic target. *Tissue Barriers*, 3 (4), e1105906

Kim, D.G.*, **Jin, Y.***, Jin, J.*, Yang, H., Joo, K.M., Lee, S.H., and Nam, D. (2015) Anti-cancer activity of tanibirumab, a fully human anti-vascular endothelial growth factor receptor 2 (VEGFR-2/KDR) monoclonal antibody, is associated with inhibition of tumor angiogenesis. *mAbs*, 7(6), 1195-204

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