"MEKK2 Mediated Regulation of Intestine Repair Require R-Spondin1 from Intestine Resident Myofibroblasts"

“Proper intestinal repair and homeostasis is essential for the maintenance of gut integrity. We show that mitogen-activated protein kinase (MAPK) kinase kinase, MEKK2, plays an intestinal sub-epithelium myofibroblast (ISEMF) specific role in inducing R-spondin-1 production in response to acute damage. Genetic ablation of MEKK2 results in severe colitis in response to DSS-induced intestine damage with great loss of Lgr5+ intestine stem cells, highly reduced number of goblet cells, and infiltration of inflammatory cells. Importantly, we found that the MEKK2 signal is essential for the production of Wnt agonist R-spondin1 by the intestinal resident fibroblasts upon damage, thus upregulating the regeneration signals in the intestine stem cell niche to promote gut epithelial differentiation for the repair. Together, our study reveals an important and specific role of MEKK2 in maintaining gut homeostasis.”

Tuesday, May 2nd, 2017
12:00p-1:00p
Rosenstiel Medical Science Building
4th Floor Auditorium