

ID No.	K1008
Project Title	Novel therapy of intestinal inflammation/infection by targeting mucosal interface
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Report	
<p>Role of cholinergic nerve system in the regulation of colonic inflammation:</p> <p>To analyze the interaction between intestinal epithelium and immune cells in colonic inflammation, first we investigated the effect of stimulation of cholinergic nerve system in IL10 knockout colitis mouse. Administration of acetylcholine analogue, nicotine, attenuated the colitis of IL10 knockout mice. FCM showed reduction of Gr-1+, F480+ cells. Using in vitro culture model, DC-mediated perturbation of epithelial cell differentiation was restored by the treatment of A7nAChR ligand. DC-specific A7nAChR deletion abrogated its effect.</p> <p>DC-specific A7nAChR deletion in IL10 knockout mouse exacerbated colitis compared to IL10 knockout mice, indicating the critical role of DC's cholinergic signal to the attenuation of colitis.</p>	