

ID No.	K1008
Project Title	Novel therapy of intestinal inflammation/infection by targeting mucosal interface
Principal Investigator	Lars Eckmann (Prof., Univ. of California, San Diego (UCSD))
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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 attenuated the colitis of IL10 knockout mice. Using in vitro culture model, we have explored the target of acetylcholine by using cell specific $\alpha 7$nicotinic acetylcholine receptor(A7nAChR) knockout mouse. DC-mediated perturbation of epithelial cell differentiation was restored by the treatment of A7nAChR ligand. DC-specific A7nAChR deletion abrogated its effect indicating the critical role of DC's A7nAChR.</p> <p>Currently, the role of A7nAChR of DC in vivo is under investigation using DC-specific A7nAChR/ IL10 double knockout mouse. The role of epithelial A7nAChR will be determined using epithelial cell specific A7nAChR deletion, which is also in preparation.</p>