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Primary Research Interest:	Other
Description of Research:	Our overall hypothesis is that colonic PepT1 plays a critical role in initiating and perpetuating intestinal colitis and consequently participate to the development of colitis associated cancer. The initial aim of this proposal is to investigate the PepT1-NOD2 signaling pathway(s) in colitis associated cancer. Second, we will explore the role of colonic PepT1 expression in weakness colonic barrier function and affecting wound healing that may an important determinant of colorectal cancer development in IBD. Finally, using nanotechnology approaches, we will investigate the targeting of PepT1 for treatment of intestinal inflammation and colitis associated cancer. It is envisaged that the planned work will identify the molecular mechanisms underlying the functional role of PepT1 in colitis associated cancer and allow development of therapeutic strategies targeting intestinal inflammatory conditions.
Relevance to VA:	Relevance to the VA patient care mission: Over one million adults and children in the U.S, that include VA population, suffer from inflammatory bowel disease, with about 30,000 new cases diagnosed each year, according to the Crohn's and Colitis Foundation of America. The VA IBD patients also had a much higher rate of colorectal cancer compared to the general population from National Center for Health Statistics data (2.9% vs. 0.1%). New therapeutic strategies based on a better understanding of the pathogenesis of IBD will improve the clinical care of veteran and non veteran patient with this disorder.