

001 CD1D-DEPENDENT REGULATION OF BACTERIAL COLONIZATION IN THE INTESTINE

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Inflammatory Bowel Disease (IBD) results from aberrant immune responses to the intestinal microbiota. Paneth cells (Pc) control intestinal colonization by secretion of anti-microbial proteins. Activation of CD1d-restricted natural killer T (NKT) cells with the glycolipid model-antigen α -GalCer diminished colonization of the small intestine in vivo. Small intestines of germ-free CD1d^{-/-} mice were more rapidly colonized with bacteria than WT mice. Ultrastructural analysis of Pc showed profound morphological and functional alterations in Pc granule composition of CD1d^{-/-} mice. The granules were smaller and the characteristic peripheral halo was more lucent when compared to WT. These results show that CD1d regulates colonization of the intestine in part by affecting Pc granule composition and release of antimicrobial products into the intestinal lumen.