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**CHECKPOINT MOLECULE CLEAVAGE DIFFERENCES BETWEEN CROHN'S
DISEASE AND ULCERATIVE COLITIS**

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Inflammatory bowel disease (IBD) is a group of disorders that involves chronic inflammation of the gastrointestinal (GI) tract which consists of Crohn's disease (CD) and ulcerative colitis (UC). This chronic inflammation significantly increases the chance of irregularities and cancerous tumors forming within the GI tract. T-cell dysregulation plays a pivotal role in the cause of chronic inflammation. T-cells are an integral part of the immune system as they kill infected cells and are regulated by "off" signals sent from checkpoint molecules to prevent them from destroying healthy cells. Crohn's disease and ulcerative colitis have different inflammatory responses as CD can affect the entire GI tract and UC only affects the colon. It is hypothesized that ulcerative colitis and Crohn's disease have different cleavage of checkpoint molecules which may be linked to the differences in inflammatory responses between these two diseases. To test this hypothesis, control and IBD tissues were first obtained from IRB-approved protocols under the Division of Gastroenterology IBD Tissue Bank. Samples were then prepared and analyzed using a human checkpoint molecule panel Luminex assay. After analysis, differences were found in checkpoint molecule cleavages specifically IDO and PD-1 from UC tissues, BTLA4 from CD tissues, and Lag3 from both UC and CD tissues. These results indicate ulcerative colitis and Crohn's disease do have different cleavage of checkpoint molecules which may lead to the difference in T-cell dysregulation. Further examination is needed to identify the enzymes responsible for checkpoint molecule cleavage, but these results may be the key to understanding the differences in inflammatory responses between ulcerative colitis and Crohn's disease.