

Scientists discover new drug target for inflammatory bowel disease: cytokine (IL-23)

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A new discovery published in the April 2011 issue of *Journal of Leukocyte Biology* raises hope that new treatments for illnesses like Crohn's disease and ulcerative colitis are on the horizon. That's because they've identified IL-23, a cytokine used by the immune system to ward off disease, as a major contributor to the inflammation that is the hallmark of these illnesses. With this information, it is now possible to develop new treatments that stop or reduce the damaging effects of IL-23, potentially bringing relief to millions of people with inflammatory bowel disease (IBD) and possibly other inflammatory illnesses as well.

"Our studies highlight the pathogenic role of IL-23 in the induction of mucosal injury in the gut," said Zhanju Liu, M.D., Ph.D., a researcher involved in the work from the Department of Gastroenterology at The Shanghai Tenth People's Hospital at Tongji University in Shanghai, China. "Moreover, our work also provides a novel approach in the management of IBD and some [autoimmune diseases](#)."

To make this discovery, Liu and colleagues analyzed IL-23 expression in intestinal mucosa using laboratory techniques that amplify and simultaneously quantify a specific DNA molecule, allowing for both detection and quantification of one or more specific sequences in a DNA sample. IL-23R expression was detected in a variety of cells from peripheral blood and intestinal mucosa of IBD patients, suggesting that IL-23 plays an important role in the induction of proinflammatory [cytokine](#) secretion as well as different types of [immune cells](#) including recently discovered Th17 helper [T cells](#) that are often important in inflammatory diseases.

"This research is important because it helps us better understand why people develop IBD, and

defines one of the key pathways driving the excessive inflammation," said John Wherry, Ph.D., Deputy Editor of the *Journal of Leukocyte Biology*. "Even more important, however, is that this study moves us a step closer to new treatments for these illnesses by targeting IL-23 and related proteins."

More information: hanju Liu, Praveen K. Yadav, Xiaorong Xu, Jingling Su, Chi Chen, Maochun Tang, Hui Lin, Jifeng Yu, Jiaming Qian, Ping-Chang Yang, and Xingpeng Wang. The increased expression of IL-23 in inflammatory bowel disease promotes intraepithelial and lamina propria lymphocyte inflammatory responses and cytotoxicity. *J Leukoc. Biol.* April 2011 89:597-606; [doi:10.1189/jlb.0810456](https://doi.org/10.1189/jlb.0810456)

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