

THE NLRP3 INFLAMMASOME IS UPREGULATED ON MRNA EXPRESSION LEVEL AND ACTIVATED ON PROTEIN LEVEL IN INFLAMMATORY BOWEL DISEASE PATIENTS IN A SYSTEMATIC META-ANALYSIS AND IN A NEW OBSERVATIONAL STUDY COHORT

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Poster

IBD

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A meta-analysis and observational cohort study found NLRP3 and IL1B gene expression significantly elevated in IBD patients versus controls and in active versus quiescent disease, but IL-1 β and IL-18 protein production showed large individual variation unrelated to disease activity.

KEY POINTS

- Meta-analysis of thirty studies showed NLRP3 and IL1B mRNA expression significantly higher in IBD patients than non-IBD controls and higher in active disease than remission
- In an observational cohort of 70 CD and UC patients, ex vivo LPS and ATP stimulation activated NLRP3-related genes and cytokine secretion, which was blocked by the NLRP3 inhibitor MCC950
- While inflammasome transcription was elevated in active IBD, IL-1 β and IL-18 protein production showed large individual variation not related to disease activity
- Individual variance in NLRP3 inflammasome activation could help identify IBD patients who might benefit from NLRP3- or IL-1 β -directed therapies
- This material is relevant for researchers and clinicians interested in IBD pathophysiology and personalized therapeutic approaches

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