

SUGGESTED INTERPRETATION OF ibs•smart™ RESULTS

Anti-CdtB	Anti-Vinculin	Test Result	Clinical Association
Elevated	Not Elevated	Positive	<ul style="list-style-type: none"> A potentially recent case of gastroenteritis has likely led to IBS, and the patient may be more susceptible to subsequent gastroenteritis. Although the patient's immune system has responded to the CdtB toxin, autoimmunity is not currently present, as anti-vinculin antibodies are not elevated. Anti-CdtB levels could remain elevated and begin to generate anti-vinculin autoimmunity in time. Anti-CdtB antibody levels have been seen to return to normal over time.
Not Elevated	Elevated	Positive	<ul style="list-style-type: none"> Gastroenteritis has likely led to IBS. The lack of elevation in anti-CdtB antibodies suggests that the gastroenteritis was less recent. The patient may still be more susceptible to subsequent gastroenteritis. Autoimmunity that damages gut function has now developed, and an altered microbiome may be seen. The higher the level of anti-vinculin, the greater the risk of more severe dysmotility. Levels of anti-vinculin have been shown to become elevated over three to four months after infection and can be more persistent than levels of anti-CdtB.
Elevated	Elevated	Positive	<ul style="list-style-type: none"> A recent case of gastroenteritis has likely led to IBS, or a recent infection subsequent to the development of IBS may have taken place. Autoimmunity has already developed, damaging gut function, and an altered microbiome may be seen. The higher the level of anti-vinculin, the greater the risk of more severe dysmotility. Levels of anti-vinculin have been shown to become elevated over three to four months after infection and can be more persistent than levels of anti-CdtB. Levels of anti-CdtB have been seen to return to normal over time.
Not Elevated	Not Elevated	Non-Indicative	<ul style="list-style-type: none"> Patient may not have post-infectious IBS. Patient may be a candidate for additional testing to determine the cause of symptoms.

- Morales W. et al. **Immunization with cytolethal distending toxin B produces autoantibodies to vinculin and small bowel bacterial changes in a rat model of postinfectious irritable bowel syndrome.** Neurogastroenterol Motil. (2020).
- Pimentel, M. et al. **Microbiome and Its Role in Irritable Bowel Syndrome.** Dig Dis Sci (2020).
- Morales, W. et al. **Second-Generation Biomarker Testing for Irritable Bowel Syndrome Using Plasma Anti-CdtB and Anti-Vinculin Levels.** Dig Dis Sci (2019).
- Klem F, et al. **Prevalence, Risk Factors, and Outcomes of Irritable Bowel Syndrome After Infectious Enteritis: A Systematic Review and Meta-analysis.** Gastroenterology (2017).
- Rezaie, A. et al. **Autoimmunity as a Potential Cause of Post-Infectious Dysmotility: A longitudinal Observation.** American College of Gastroenterology (2017).
- Pimentel M. et al. **Development and Validation of a Biomarker for Diarrhea-Predominant Irritable Bowel Syndrome in Human Subjects.** PLoS ONE (2015).