CLAIMS

1. An *in vitro* or *ex vivo* method of distinguishing irritable bowel syndrome (IBS) from both inflammatory bowel disease (IBD) and celiac disease comprising:

providing a biological sample from a subject desiring a diagnosis to distinguish IBS from both IBD and celiac disease;

detecting in the biological sample, levels of anti-vinculin and anti-CdtB antibodies; and

making a diagnosis that the subject has IBS and not IBD or celiac disease if the level of anti-vinculin antibodies is higher than an established control level of anti-vinculin antibodies, the level of anti-CdtB antibodies is higher than an established control level of anti-CdtB antibodies, or both levels of anti-vinculin antibodies and anti-CdtB antibodies are higher than the established control levels of anti-vinculin antibodies and anti-CdtB antibodies.

2. A method according to Claim 1, in which the biological sample is whole blood, serum, or plasma.

3. A method according to Claim 1, in which detecting in the biological sample comprises using enzyme-linked immunosorbent assay (ELISA).

4. A method according to Claim 1, in which detecting in the biological sample comprises using immunohistochemistry, flow cytometry, fluorescence *in situ* hybridization (FISH), radioimmuno assays, or affinity purification.

5. A method according to Claim 1, in which the anti-vinculin antibodies are capable of binding specifically to an epitope on vinculin or SEQ ID NO: 7.

6. A method according to Claim 1, in which the anti-CdtB antibodies are capable of binding specifically to an epitope on CdtB of *Campylobacter jejuni* or SEQ ID NO: 5.

7. A method according to Claim 1, in which the diagnosis of IBS is made if the level of anti-vinculin antibodies is higher than the established control level of anti-vinculin antibodies.

8. A method according to Claim 1, in which the diagnosis of IBS is made if the level of anti-CdtB antibodies is higher than the established control level of anti-CdtB antibodies.

9. A method according to Claim 1, in which the diagnosis of IBS is made if both levels of anti-vinculin antibodies and anti-CdtB antibodies are higher than the established control levels of anti-vinculin antibodies and anti-CdtB antibodies.

10. A method according to Claim 1, in which the established control level of anti-vinculin antibodies, anti-CdtB antibodies, or both is an optical density measurement.

11. An *in vitro* or *ex vivo* method of selecting a treatment for irritable bowel syndrome (IBS) comprising:

providing a biological sample from a subject desiring a diagnosis to distinguish IBS from both IBD and celiac disease;

detecting in the biological sample, levels of anti-vinculin and anti-CdtB antibodies;

making a diagnosis that the subject has IBS and not IBD or celiac disease if the level of anti-vinculin antibodies is higher than an established control level of anti-vinculin antibodies, the level of anti-CdtB antibodies is higher than an established control level of anti-CdtB antibodies, or both levels of anti-vinculin antibodies and anti-CdtB antibodies are higher than the established control levels of anti-vinculin antibodies and anti-CdtB antibodies; and

selecting an IBS treatment for the subject if IBS and not IBD or celiac disease is diagnosed.

12. A method according to Claim 11, in which the biological sample is whole blood, serum, or plasma.

13. A method according to Claim 11, in which detecting in the biological sample comprises using enzyme-linked immunosorbent assay (ELISA).

14. A method according to Claim 11, in which detecting in the biological sample comprises using immunohistochemistry, flow cytometry, fluorescence *in situ* hybridization (FISH), radioimmuno assays, or affinity purification.

15. A method according to Claim 11, in which the anti-vinculin antibodies are capable of binding specifically to an epitope on vinculin or SEQ ID NO: 7.

16. A method according to Claim 11, in which the anti-CdtB antibodies are capable of binding specifically to an epitope on CdtB of *Campylobacter jejuni* or SEQ ID NO: 5.

17. A method according to Claim 11, in which the established control level of anti-vinculin antibodies, anti-CdtB antibodies, or both is an optical density measurement.

18. A method according to Claim 11, in which the diagnosis of IBS is made if the level of anti-vinculin antibodies is higher than the established control level of anti-vinculin antibodies.

19. A method according to Claim 11, in which the diagnosis of IBS is made if the level of anti-CdtB antibodies is higher than the established control level of anti-CdtB antibodies.

20. A method according to Claim 11, in which the diagnosis of IBS is made if both levels of anti-vinculin antibodies and anti-CdtB antibodies are higher than the established control levels of anti-vinculin antibodies and anti-CdtB antibodies.