

B. coagulans Lactospore

Bacillus

coagulans

Lactospore MTCC 5856

GENUS

SPECIES

STRAIN

Summary

Bacillus coagulans MTCC 5856 has shown potential in improving symptoms of irritable bowel syndrome (IBS) and IBS combined with major depressive disorder (MDD) through two small randomized, placebo-controlled pilot studies.

Continues next page...



SYMPTOM	IMPROVEMENT	# PARTICIPANTS	STUDIED DOSE
Diarrhea ①	STRONG	31	2 billion CFU
Constipation ①	NOT STUDIED	0	N/A
Bowel Habits ①	NOT STUDIED	0	N/A
Global IBS Symptoms ①	STRONG	31	2 billion CFU
Abdominal Pain /... ①	STRONG	71	2 billion CFU
Bloating / Distension ①	STRONG	31	2 billion CFU
Gas / Flatulence ①	NOT STUDIED	0	N/A
Nausea / Vomiting ①	STRONG	31	2 billion CFU
Mental Health ①	MODERATE	40	2 billion CFU

Dosing

Potentially Effective Doses(s)	2 billion CFU/day
Form	Capsule or Chewable tablet
Suggested Minimum Trial Duration	8 weeks

How to select a product

Many commercial products contain this strain. But not all are suitable. You need to find one that:

1. has a transparent formula, so we know what is in it and how much
2. only contains active ingredients that are probiotic strains, which have been clinically studied in IBS populations
3. can deliver the studied dose
4. has undergone 3rd party testing for active ingredient and potency, as well as microbiological testing, heavy metals analysis and allergen testing

Search probioticfinder.org to see which products match this criteria.

Notes:

Study 1: IBS-D Symptoms (1)

In the first study, adults with diarrhea-predominant IBS (IBS-D) took 2 billion CFU/day of the probiotic for 90 days, alongside standard IBS treatment. The results were impressive:

- Stool frequency decreased by 45.1% (Cohen's $d = 2.93$; $p = 0.0031$).
- Bristol stool form improved significantly, from a baseline of 6 (diarrhea) to 3 (normal stool form) by the fourth visit (Cohen's $d = 1.02$; $p < 0.01$).
- Diarrhea symptoms decreased by 43% (Cohen's $d = 1.30$; $p = 0.0026$).
- Bloating symptoms reduced by 41.8% (Cohen's $d = 2.19$; $p = 0.0037$).
- Abdominal pain scores dropped by 68.1% (Cohen's $d = 2.50$; $p = 0.0001$).
- Overall health and quality of life improved significantly (Cohen's $d = 1.14$; $p < 0.01$).

However, the small sample size and high attrition rates, particularly in the placebo group (27.8% dropout vs. 5.6% in the treatment group), necessitate cautious interpretation. The authors addressed this by imputing missing measurements with those from previous time points (forward carrying), which, while necessary given the small population size, could have influenced the assessment.

Study 2: IBS and MDD Symptoms (2)

- In the second study targeting adults with both IBS and MDD, participants received either a placebo or a 2 billion CFU/day dose of *B. coagulans* MTCC 5856 for 90 days. This study mostly assessed mental health parameters and found the following significant findings:
 - Depression scores on the Hamilton Rating Scale for Depression (HAM-D) decreased from 13.6 to 5.9 (Cohen's $d = 0.92$; $p = 0.029$).
 - Montgomery-Asberg Depression Rating Scale (MADRS) scores improved from 16.3 to 6.0 (Cohen's $d = 0.93$; $p = 0.031$).
 - Center for Epidemiological Studies Depression Scale (CES-D) scores dropped from 19.1 to 8 (Cohen's $d = 0.84$; $p < 0.01$).
 - Other mental health-related parameters, including Clinical Global Impression-Improvement (CGI-I) rating, Clinical Global Impression-Severity (CGI-S) scale, Gastrointestinal Discomfort Questionnaire (GI-DQ), and Modified Epworth Sleepiness Scale (mESS), showed significant improvements ($p = 0.01$), except for dementia total reaction scoring.

Key Takeaways

Together, these studies suggest that B. coagulans MTCC 5856 may have potential for reducing IBS-D symptoms and might offer benefits for patients with concurrent IBS and MDD.

While we are cautiously optimistic about this probiotic, future research with larger sample sizes would help to confirm these findings and fully understand this probiotic’s potential.

We would like to emphasize that this probiotic should not be misconstrued as an alternative to more validated mental health therapies and medications, and any add-on therapies to conventional treatment for IBS or MDD should always be discussed with your medical provider.

This handout provides educational content on probiotics, derived from clinical studies, for both clinicians and their patients over the age of 18. The information is intended to enrich professional knowledge and practice but does not constitute medical advice, diagnosis, or treatment. Always consult with medical professionals before making any changes to exercise, nutrition, or supplementation regimens.

References

1. Majeed, M., Nagabhushanam, K., Natarajan, S. et al. Bacillus coagulans MTCC 5856 supplementation in the management of diarrhea predominant Irritable Bowel Syndrome: a double blind randomized placebo controlled pilot clinical study. Nutr J 15, 21 (2015). <https://doi.org/10.1186/s12937-016-0140-6>
2. Majeed M, Nagabhushanam K, Arumugam S, Majeed S, Ali F. Bacillus coagulans MTCC 5856 for the management of major depression with irritable bowel syndrome: a randomised, double-blind, placebo controlled, multi-centre, pilot clinical study. Food Nutr Res. 2018 Jul 4;62. doi: 10.29219/fnr.v62.1218. PMID: 29997457; PMCID: PMC6034030.