LGG

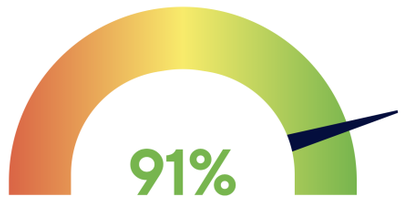
Lactobacillus	rhamnosus	GG
GENUS	SPECIES	STRAIN

Summary

Five studies were initially identified that explored the effects of LGG (Lactobacillus rhamnosus GG) in IBS populations. (1,2,3,4,5)

However, three of these studies were disqualified from consideration due to significant confounding factors that limited the reliability of their results. (1,2,3). **Continues next page...**

Evidence Quality Grade



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

Dosing

Potentially Effective Doses(s)	6 Billion CFU (taken as twice daily doses of 3 billion CFU)
Form	Capsule
Suggested Minimum Trial Duration	4 to 8 weeks, beneficial effects may endure after treatment cessation

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:

Summary (continued)

1. **Unspecified Inulin Dose as a Major Confounder:**
   Two studies included inulin in both the probiotic and placebo groups, but the exact dose of inulin was not specified. (1,2) This lack of detail makes it unclear what intervention was actually provided, severely complicating the interpretation of the results. Without knowing whether the inulin was provided in equal doses between the treatment and placebo groups, it is impossible to determine if the effects observed were due to LGG, inulin, or a combination of both. Additionally, given that inulin can have varying impacts on individuals with IBS—potentially exacerbating symptoms—this lack of clarity severely limits the interpretation of the results.

2. **Lack of Blinding and Control:**
   Another study compared LGG with a control group and a low FODMAP diet group but lacked blinding, and the control group did not receive a placebo. (3) This flaw made the study unsuitable for inclusion in our analysis, as a placebo control is critical for assessing the true efficacy of a treatment.

Studies Included in our Evaluation

This leaves us with two studies that avoided major confounding factors and included IBS participants:

Study 1:

- The first study included 104 children described as having functional bowel disorders, of which only 37 had IBS. (4)
- Among the IBS participants, there was a near significant reduction in the frequency of abdominal pain in the LGG group compared to the placebo group (Cohen's d = 0.62, p = 0.067), though there was no significant difference in pain severity.
- Treatment success, defined as "no pain," was reported by 33% of the IBS LGG group versus 5% in the placebo group (p=0.029; Cohen's h= 0.77).
- However, these results should be interpreted cautiously due to wide confidence intervals and the lack of baseline severity and frequency data specifically for the IBS participants.

Studies (continued)

Study 2:

- The second study was conducted in 141 children with IBS or functional abdominal pain, of which 80 participants had IBS. (5) The study noted improvements in both the frequency and intensity of abdominal pain among the IBS participants.
- At weeks 5-12, 79% of the IBS LGG group achieved treatment success for the number of pain episodes, compared to 45% in the placebo group (p=0.004; Cohen's d= 0.69).
- At the 13-20 week follow-up, this increased to 82% for the LGG group and 50% for placebo (p=0.001; Cohen's h= 0.79). While the intensity of pain episodes did not show significant improvement during weeks 5-12 (p=0.1), by weeks 13-20, 72% of the IBS LGG group reported treatment success for pain intensity, compared to 46% in the placebo group (p=0.029; Cohen's d = 0.51).
- This study also observed that LGG led to a significant decrease in altered intestinal permeability, particularly in children with IBS, compared to those with functional abdominal pain.
- However, the clinical relevance of this change is unknown, as tools to measure intestinal permeability lack appropriate standardization and validation in IBS populations.

Key Takeaways

- The evidence supporting the use of LGG for abdominal pain in IBS is limited to two clinical trials, which collectively involved 117 children with IBS.
- While the data suggests moderate potential benefits in reducing abdominal pain frequency, intensity, and pain resolution, these findings are preliminary.
- Further research with larger, well-designed studies would help to confirm these benefits.

References

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3. Pedersen N, Andersen NN, Vegh Z, et al. Ehealth: low FODMAP diet vs Lactobacillus rhamnosus GG in irritable bowel syndrome. World J Gastroenterol. 2014;20(43):16215–26. doi:10.3748/wjg.v20.i43.16215.
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