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PrecisionBiotics®

Probiotic Viability

What it means, how it's proven, and the evidence for *Bifidobacterium longum* **35624**™

The **viability** of a probiotic refers to its ability to survive through the gastrointestinal tract to its site(s) of action. Recent consensus[1] states that evidence of viability from studies conducted in humans is required for any bacterial strain labelled as a probiotic:

"Proof of delivery of viable strains..."
"Such evidence includes well-conducted studies in humans..."

Viability data should be obtained from research conducted in humans.

In vitro studies, such as those conducted in synthetic environments, are unable to accurately replicate the diversity and complexity of the human gut[2].

The percentage of bacteria which reaches the colon alive is not a sole indicator of survival.

Some bacteria might adhere to the gut, and some might interact with the immune system along the way. What goes in doesn't necessarily equal what comes out.

References to research of individual strains can't be applied to a combination of strains.

Individual strains can often compete with each other in the gut[3], therefore evidence of viability and efficacy should be conducted in the exact combination of strains as that found in the probiotic supplement.

The viability of the *Bifidobacterium longum* **35624**™ strain

The **35624**™ strain is acid-tolerant, meaning it can survive the harsh, acidic environment of the stomach and beyond. Several studies conducted in humans with healthy and diseased bowels have demonstrated that the **35624**™ strain:

- Survives in the gut and arrives at the site of action in the small intestine[2,4,5]
- Adheres to the lining of the gut[4,6]
- Is present in stool samples in a viable form at levels greater than $1x10^4$ CFU/g of stool[2]

The **35624**™ strain exerts positive clinical effects including significant improvements in all IBS-subtypes, including:[6-8]

- Abdominal pain/discomfort
- Bloating/distension
- Bowel habit satisfaction
- Passage of gas
- Inflammatory biomarkers
- Quality of life

References

1. Hill C, Guarner F, Reid G, *et al.* Expert consensus document. The International Scientific Association for Probiotics and Prebiotics consensus statement on the scope and appropriate use of the term probiotic. Nat Rev Gastroenterol Hepatol. 2014;11(8):506-514.
2. Healy S, Casey M, Kiely B, *et al.* 68 The *Bifidobacterium longum* 35624® culture transits in high numbers through the human gut. Gut. 2017;66:A25.
3. Janusz et al. International Scientific Association for Probiotics and Prebiotics Annual Meeting; 7-9 June 2016; Turku, Finland.
4. Von Wright A, Vilpponen-Salmela T, Llopis MP, *et al.* The survival and colonic adhesion of *Bifidobacterium infantis* in patients with ulcerative colitis. International Dairy Journal. 2002;12:197-200.
5. Charbonneau D, Gibb RD, Quigley EMM. Fecal excretion of *Bifidobacterium infantis* 35624® and changes in fecal microbiota after eight weeks of oral supplementation with encapsulated probiotic. Gut Microbes. 2013;4(3):201-211.
6. O'Mahony L, McCarthy J, Kelly P, *et al. Lactobacillus* and *Bifidobacterium* in irritable bowel syndrome: symptom responses and relationship to cytokine profiles. Gastroenterology. 2005;128(3):541-551.
7. Whorwell PJ, Altringer L, Morel J, *et al.* Efficacy of an encapsulated probiotic *Bifidobacterium infantis* 35624® in women with irritable bowel syndrome. Am J Gastroenterol. 2006;101(7):1581-1590.
8. Groeger D, O'Mahony L, Murphy EF, *et al. Bifidobacterium infantis* 35624® modulates host inflammatory processes beyond the gut. Gut Microbes. 2013;4(4):325-339.