



Mythbuster: All probiotics are NOT the same!

Probiotic strains and why they matter.

Bacteria, including probiotics, are identified by three names: Genus, species and strain. Examples of probiotic strains include *Lactobacillus rhamnosus* GG, *Lactobacillus acidophilus* LA-5®, and *Bifidobacterium lactis* BB-12®.

GENUS	SPECIES	STRAIN
<i>Canis</i>	<i>lupus</i>	Chihuahua
<i>Lactobacillus</i> (<i>Lactocaseibacillus</i>)	<i>rhamnosus</i>	GG
<i>Lactobacillus</i>	<i>acidophilus</i>	LA-5
<i>Bifidobacterium</i>	<i>lactis</i>	BB-12

A good analogy is to think of strains as you would dog breeds. Even though they belong to the same species, a chihuahua has different feeding and activity requirements as compared to a St. Bernard and will deliver different benefits or services. Likewise, different probiotic strains will provide different benefits.

Bacterial strain designation is often overlooked- but we know that some species have strains that are beneficial for health while others may cause very serious diseases. One familiar story is the *E. coli* story. *E. coli* K12 delivers many health benefits such as vitamin production in the gut while *E. coli* O157:H7 is notorious for causing serious illness.

Probiotic strains within the same species can have significantly different activities, properties, and health benefits for consumers. Benefits are strain-specific. Choose probiotic products based on the benefits that their strains are proven to provide. For example Culturelle® products deliver the most clinically studied probiotic,¹ *Lactobacillus rhamnosus* GG, which is a strain associated with reducing the risk of antibiotic associated diarrhea, acute infectious diarrhea, traveler's diarrhea and providing support for the immune system.* Align® probiotic, formulated with *Bifidobacterium infantis* 35624™, is known for its clinical evidence in improving the symptoms of irritable bowel syndrome. Of note, the clinically relevant dose of *Bifidobacterium infantis* 35624™ is 100 million CFUs (colony forming units) but at expiration the product delivers only 10 million CFUs.

VSL#3® and Visibiome represent a "real-life" issue of strain confusion. The original VSL#3® formulation is one of the few multi-strain blends with clinical support, including improvement in inflammatory bowel disease. The original VSL#3® formula is now known as Visibiome and contains 8 individual strains (4 strains of lactobacilli, 3 strains of bifidobacteria



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and 1 strain of *S. thermophilus*). There is a new “VSL#3®” formula that claims to be that same product. However, there are significant differences between the original VSL#3® and the new probiotic now sold under the name “VSL#3®.” Details describing the comparison, the inadequacies of the current VSL#3® and the subsequent injunction pertaining to these inadequacies can be found here.³

Many popular probiotic brands provide only the genus and species of the probiotic organisms in their products. This allows them to fill their products with a heterogeneous mix, often with cheaper raw materials, and limited accountability for consistency and quality. The identity of individual strains contained in the product may vary from lot to lot, as the manufacturer is not assuring strain identity. Many of these products make claims that are not attributable to the species found in their products by leveraging strain-specific clinical evidence.¹ If a product merely describes the probiotics by genus and species, the consumer does not know which *Lactobacillus rhamnosus* strain is in the product.

Culturelle® is proud of the strains we have selected for our products and names each one. *Lactobacillus rhamnosus* GG, the most clinically studied probiotic, is the foundational strain in Culturelle® products.[†] *Lactobacillus rhamnosus* GG has strain specific features that promote survival in the upper gastrointestinal tract, persistence in the intestines and deliver the clinically supported benefits of this unique strain.² Culturelle® delivers this strain in shelf-stable formats to ensure safety and efficacy through expiration.

ORDERING INFORMATION

LABEL NAME	UPC	NDC
Culturelle HOSPITAL, Unit Dose Capsules (10B CFUs)	0 49100 40007 5	49100-0400-07
Culturelle HOSPITAL, Unit Dose Capsules (15B CFUs)	0 49100 40077 8	49100-0400-77
Culturelle KIDS STICKS HOSPITAL Unit Dose (5B CFUs)	0 49100 40063 1	49100-0400-63
Culturelle Health & Wellness Capsules (15B CFUs)	0 49100 36374 5	49100-0363-74
Culturelle Digestive Daily Probiotic Capsules (10B CFUs)	0 49100 40009 9	49100-0400-09
Culturelle Digestive Daily Probiotic Capsules (10B CFUs)	0 49100 40012 9	49100-0400-12
Culturelle Kids Sticks (5B CFUs)	0 49100 40008 2	49100-0400-08

References

1 Marteau, P. Evidence of probiotic strain specificity makes extrapolation of results impossible from a strain to another, even from the same species. *Ann Gastroenterol Hepatol* 2 [2011].

2 Capurso, L. Thirty years of *Lactobacillus rhamnosus* GG: A review. *Journal of Clinical Gastroenterology* 53, S1-S41 [2019].

3 https://cdn.shopify.com/s/files/1/0736/3645/files/ExeGi_Pharma_VSL_White_Paper_Design_FINAL_PAGES.pdf?2990

†Based on the number of *Lactobacillus rhamnosus* GG clinical studies, as of January 2021.

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*THESE STATEMENTS HAVE NOT BEEN EVALUATED BY THE FOOD AND DRUG ADMINISTRATION. THIS PRODUCT IS NOT INTENDED TO DIAGNOSE, TREAT, CURE OR PREVENT ANY DISEASE.