

## Probiotics

### What are probiotics?

Commonly known as living bacteria that inhabit our digestive system, “probiotic” literally means promotion of microorganism growth. While usually associated with health-promoting bacteria, probiotics and probiotic supplements can include bacteria, bacterial spores, or fungi (yeast).

Common forms of probiotics include:

- *Bifidobacterium* spp.
- *Lactobacillus* spp.
- *Bacillus coagulans* (bacterial spore)
- *Saccharomyces boulardii* (fungus)

### How are they named?

Probiotic names include a genus (first letter capitalized) and species (follows genus, usually italicized). For example: *Lactobacillus rhamnosus*

Isolated or subtypes of a strain may also be specified and are usually indicated by extra letters or numbers after the name. For example: *Lactobacillus rhamnosus* GG or *Bifidobacterium longum* BB536®.

Each genus, species, and subtype can have different actions in the body.



### **What are CFUs?**

Colony Forming Units, or CFUs, are the count of probiotics that a manufacturing company guarantees are in one serving of the product by the expiry date. This means that prior to expiry, an individual dose of the product should technically contain more CFUs than is indicated on the bottle.

### **How do probiotics work?**

The microbial balance of the body, and most significantly the digestive tract, can be affected by a number of factors, including antibiotic use, dietary patterns, lifestyle, and genetics. Probiotics work by helping to change the colonies that live naturally in the environments they're exposed to. They encourage the growth of commensal bacteria by directly supplementing their numbers, or by crowding out the non-commensal bacteria that have taken residence where they shouldn't be.

### **Benefits of probiotics**

Research has demonstrated that probiotics have numerous benefits, including:

- Digestive health/issues: diarrhea, constipation, cramping, bloating, fat metabolism, mineral absorption, Irritable Bowel Syndrome (IBS), Irritable Bowel Disease (IBD)
- Immune health/immune-mediated conditions: over 70% of a human's immune system lives in the gut
- Weight management and metabolism
- Mental health/depression

### **Dietary sources of probiotics**

The most significant source of dietary probiotics is fermented food products, such as yogurt, kombucha, sauerkraut, and kimchi. Fermented foods contain a wide variety of bacteria and yeasts that can impart health benefits, but are nearly impossible to specify for strain or quantity of probiotics.

### **Probiotic supplements**

Probiotic supplements are made of bacteria, bacterial spores, or fungi and can be found in oral, topical, or suppository form. Research shows that the benefits of probiotics are dependent on specific families and species of bacteria as opposed to just quantity or CFU count.

### **Manufacturing and storage**

Probiotic manufacturing is different than other supplement manufacturing processes because the category has such a large number of ingredients within it that lead to many different methods of manufacturing. This variety in sources means that products will have varied handling recommendations. While some probiotics, such as *Bacillus coagulans* (bacterial spore) and *Saccharomyces boulardii* (fungus) are stable at room temperature, most probiotics are bacteria and require refrigeration because they lose potency and numbers at warmer temperatures. Always note the product label for storage instructions.