WHY DO PROBIOTICS NEED TO BE REFRIGERATED?

In the same way refrigeration preserves the shelf life for perishable foods, it also preserves probiotics.

- Probiotics in supplement form are live active cells that have been **freeze-dried to preserve their viability** until exposed to favourable conditions for growth and replication.
- All probiotics are not created equal. **Delicate strains, such as *Bifidobacterium*, are vulnerable when left nonrefrigerated.** Their numbers decline exponentially faster than sturdy robust strains such as *Lactobacillus rhamnosus*. Refrigeration is critical to get the full benefits of all strains contained within multistrain probiotic formulas.
- Probiotic formulas marketed as "shelf-stable" rely on overbuilding (or packing in extra CFUs) to hopefully compensate for cell death and retain a total CFU count at expiry. However, **overbuilding can only compensate for sturdier strains**; more delicate strains will still die off. The longer a "shelf-stable" probiotic remains on the counter, the less likely it is to contain all the strains promised.

Only refrigeration can keep all probiotic strains alive—only living cells can replicate and populate your intestine!

NEW ROOTS HERBAL PROBIOTICS

Natural Water-Based
GPS™ Enteric Coating
Gastric Protective System

Enteric-Coated to Guarantee 100% Delivery of Live Cells to the Intestines

- Refrigerated to preserve lifespan of living active cells
- Scientifically researched multistrain formulas for condition-specific needs
- Tested and validated in an ISO 17025–accredited laboratory

DAILY CARE

11 Billion
Daily care for teens and adults

15 Billion
Stronger daily care for teens and adults

20 Billion
Superior daily care for adults

42 Billion
A bio-compatible recolonization of gut flora

55 Billion
Women's intestinal flora health

DAILY CONDITION-SPECIFIC FORMULAS

10 Billion
Irritable bowel syndrome

90 Billion
Superior colon-health support

ACUTE-CARE FORMULAS

21 Billion
Vacationing and travelers' diarrhea

50 Billion
Post–antibiotic intervention or chronic gastro-intestinal issues

120 Billion
Ultimate potency for post–antibiotic intervention or chronic gastro-intestinal issues

10 Billion
Heading into medical centers for tests, procedures, or extended visits*

10 Billion
For women with recurring vaginal or urinary issues
(Vaginal ovules)

FOR DAILY USE OR ACUTE CARE, NEW ROOTS HERBAL HAS YOU COVERED!

**Saccharomyces boulardii* does not require enteric coating, as it is a yeast

STOMACH ACID KILLS PROBIOTICS

GPS ENTERIC-COATED CAPSULES GUARANTEE 100% PROTECTION AND LIVE PROBIOTIC DELIVERY OTHERS CAN NOT!

New Roots HERBAL

WHY DO PROBIOTICS NEED ENTERIC COATING?

Fact: Gastric (stomach) acid is a strong acid made up of potassium chloride, sodium chloride, and hydrochloric acid. The pH of stomach acid usually ranges from 1 to 3. At its strongest, the pH of stomach acid is just above that of battery acid! That's why it's able to eat through the food in your stomach pretty quickly.

Fact: On average, food takes about an hour to pass through the stomach.

So a probiotic capsule needs to remain fully intact in acidic gastric fluid for at least 60 minutes, otherwise stomach acid will leak in and destroy the probiotics within.

Fact: Only enteric coating has been scientifically proven to withstand stomach acids and protect probiotics.

WHAT'S SO SPECIAL ABOUT GPS ENTERIC COATING?

- GPS enteric coating fully seals the joint of the two-part capsule, preventing stomach acid from entering through the seam.
- GPS enteric coating completely covers the exterior of the capsule, fully protecting probiotics.
- GPS enteric coating is scientifically proven to keep capsules intact while exposed to stomach acid, for at least 60 minutes.
- GPS enteric coating is scientifically engineered to open up and release probiotics once it reaches a safe intestinal PH level.

- GPS enteric coating is composed of water-based, naturally sourced fatty acids and acid-resistant marine and plant fibres—no plastic involved!

SCIENTIFIC STUDIES AND THEIR CONCLUSIONS

"Only enteric-coated probiotics were able to resist degradation by harsh stomach acids. Non-enteric-coated probiotics were almost completely destroyed."

Millette, M., et al. "Gastrointestinal survival of bacteria in commercial probiotic products." *International Journal of Probiotics & Prebiotics,* Vol. 8, No. 4 (2013): 149–156.

"Non–enteric-coated capsules of probiotics disintegrated within 5 min of exposure to simulated gastric fluid. Enteric-coated capsules did not disintegrate after 60 min of exposure to stimulated gastric fluid. This study suggests that oral delivery systems intended for intestine colonization such as probiotics should be enteric-coated to ensure maximum benefits for customers."

Kuate, S., et al. "Viability of probiotics in non–enteric-coated vegetarian capsules." *NHP Research Notes,* No. 2 (2018): 1–7.

"Most probiotics oral forms did not provide any protection to strains against acidic conditions unless protected by enteric coating."

Caillard, R., and N. Lapointe. "In vitro gastric survival of commercially available probiotic strains and oral dosage forms." *International Journal of Pharmaceutics,* Vol. 519, No. 1–2 (2017): 125–127.

"Enteric coating significantly improves survival of the probiotic, *Bifidobacterium longum*, in simulated gastrointestinal conditions."

Yasmin, I., et al. "Development of whey protein concentrate-pectin-alginate based delivery system to improve survival of *Bifidobacteria longum* BL-05 in simulated gastrointestinal conditions." *Probiotics Antimicrobial Proteins,* Vol. 11, No. 2 (2019): 413–426.

To see more evidence proving the need for enteric coating for probiotics, or to read the complete studies, visit https://probiotics.newrootsherbal.com/

MULTISTRAIN FORMULAS

The wider the variety of strains in your probiotics, the broader the benefits in your intestines and for your health.

Colony-forming units (CFUs) are touted in the billions, and for good reason. To have an impact in your small intestines, you need at least 10 to 20 billion CFU. You need extra if your diet is unbalanced or stress levels increase, more as you age, and even more following antibiotic treatment.

To have an impact in your large intestine (colon), you need probiotics with closer to 100 billion CFU.

But the true value of CFUs is their ability to replicate within your intestines. Only live cells can replicate!

SO, HOW MANY CFUS WILL YOU BE GETTING?

Why settle for **CFU count at manufacturing**? Probiotics will die off in storage, transport, and sitting on shelves, especially when not refrigerated. One product shows "17 billion at time of manufacturing" on their front label, then indicates "10 billion at expiry," in small print on the back! This is misleading and deceptive to consumers.

What about **CFU count at expiry**? It sounds better, except the capsule still has to make it to your intestines, through an hour of destructive stomach acid. Billions of CFUs will be destroyed along the way.

GPS™ Enteric-Coated Probiotics
deliver the full number of live CFU promised on our label, alive to your intestines!

We guarantee it!