

THE MOST IMPORTANT ATTRIBUTES OF PROBIOTICS

To experience health benefits from probiotic supplementation, it's important to understand which attributes make a probiotic effective. Before determining which probiotics, the source, and the amounts, it is important to determine the intention of using such an intervention. Probiotics are often used for general health or as a means to restore normal function after an insult to one's health. Further, probiotics can be used for specific and targeted support given an individual's health status. Starting with why or with the end in mind can narrow down the vast selection process that must take place next.

Probiotics can be consumed in supplemental form and by eating fermented foods, which naturally contain live cultures. Some research has shown that probiotics must contain a minimum of 10 million colony forming units (CFU) per gram at the time of consumption to provide the associated health benefits.^{1,2} Since probiotics are complex microorganisms that are sensitive to heat, light, moisture, and acidic environments, proper processing and storage of the probiotics are key to ensure their survival.^{2,3}

Stability

The quantity and strains of a probiotic don't matter if they are not stable. A good manufacturer will have testing on file and can verify that the product has met all requirements to ensure the product remains stable throughout shelf life, when stored according to the directions. Look for a supplement that lists an expiration date. Expiration dating is not a labeling requirement for supplements, so a manufacturer who provides one is making the claim that the CFU count provided at the time of manufacturing, holds true to the expiration date.

Survival

Gas and light permeability through the packaging can influence the survival of probiotics.⁴ Probiotic supplements are typically packaged in opaque material to protect the probiotics from light and oxygen. Certain plastics are better for probiotics. Some probiotics are packaged in a box rather than a bottle and may even have an oxygen-barrier blister pack where each capsule is individually protected. Also – note the storage requirements. Almost all probiotics used to require refrigeration; however, new processing techniques have allowed some probiotics to be stored at room temperature. Once consumed, survival includes the ability for the strains to reach their destination – the intestines, while surviving stomach acid.

Strain

Probiotics are popular thanks to a rich research environment of microbiota, microbiome, and emerging human clinical data. Despite the knowledge that has been accumulated, a lot of unanswered questions remain in regards to genus, species, and strain. One method that integrative medicine practitioners use to choose probiotics is matching a patient's status with those of subjects of clinical research. These products may contain a single species (precision probiotics) or they could contain a broad spectrum, (a combination of genera in its most diverse form or different strains of the same species in one formula.)

CFU Count

But wait, that's not all. The relevant number of colony forming units has yet to be addressed. While 10 million CFUs was referenced earlier, probiotics can range up to 900 billion CFUs (with most products in the 1 to 50 billion range.) How many CFUs are necessary for the intended health benefit? That's largely unanswered but information continues to be published in this regard. Dose, type, delivery, preparation, packaging, and storage are all decision factors in regards to probiotics. That means, the innocent question of "what's the best probiotic?" quickly becomes complex.

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