MULTI-STRAIN PROBIOTICS: WHEN MORE IS NOT NECESSARILY BETTER

High Potency Probiotics Numbers Game
Cut Through the Hype and Choose the Best Probiotic Supplement for You
INTRODUCTION

It's commonly assumed that if one probiotic strain has beneficial properties, more strains must be better. Read on to learn why it's actually better to use a single strain probiotic, or at most a few strains that have been scientifically proven to have health benefits for everyone.

PROBIOTICS, often referred to as "good bacteria", are microorganisms that are normally present in the human body. The World Health Organization (WHO) defines probiotics as live organisms which, when administered in sufficient amounts, can have a beneficial effect on the host[1]. Some of the known benefits of probiotics are the production of vitamins B and K, the production of antimicrobial substances, and the aiding of digestive health.

Amazingly, our bodies are 90% bacterial cells, and only 10% percent human cells. In fact, the human gut contains about 1000 different bacterial species— including microorganisms like Lactobacillus acidophilus. Every individual has a subgroup of around 160 of these species in their gut5. We call each person's unique subgroup of species their microbial fingerprint. Probiotics have been used successfully for decades in the US and been found to be most important for human health. Natren Probiotics in particular have been positively impacting human health for over 30 years.

WHAT ARE PROBIOTICS?

More multi-strain probiotic products are being seen in the health supplement market than ever before. Here's what the distributors of these multi-strain products are not telling you and may not even know themselves.

1) Probiotic bacteria do not "play nice" together. Symbiosis is not common to bacteria. Antagonism is more common[3]. Strains that are mixed together fight for survival and may inhibit one another and decrease each other's growth, thereby decreasing health benefits. Blends of probiotics should be made so that each strain of probiotic is kept separate from one another.

2) Unstudied probiotic bacteria may have little or no value. There is no agency checking the validity of these probiotic strains and assuring that they're of any value or worse yet, not causing any harm. For example, years ago multi-strain producers were including an organism called Enterococcus faecium in their products because it was hardy and resistant to heat and other damaging effects that normal probiotics are susceptible to. Years later, it was discovered that Enterococcus faecium may induce antibiotic resistance in other bacteria and it was eventually removed from these probiotic products due to this potential danger.

WHAT YOU NEED TO KNOW TO CHOOSE A PROBIOTIC SUPPLEMENT

Without doing cultures on every individual, it is impossible to know which 160 bacterial species a person carries. Therefore, it is of no value to use a multiple strain product that contains strains that may not even be found in someone, or be useful to him or her.

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PROVEN SAFE

Natren has always used the core scientifically proven safe and effective bacterial strains such as Lactobacillus acidophilus NAS and DDS-1, Bifidobacterium bifidum Mayloth, and Lactobacillus delbrueckii subspecies bulgaricus LB-51.
Not all strains provide health benefits. This is why you must rely on a reputable probiotics manufacturer to research and formulate its probiotics with the best and most beneficial bacteria available.

3) There is no independent regulatory body that confirms the strains, species or potency listed on the bottle is actually found in the probiotic supplement. A probiotic brand may be claiming potency of 60, 80 billion or even 200 or 400 billion, but that value is questionable without independent third party validation, particularly if the product is not continuously refrigerated through manufacturing, shipping, warehouse storage and in the store’s refrigerated section. And if the product is high potency, is the potency that of the more beneficial bacteria, or of some that have no true probiotic benefit?

4) Different probiotic strains deliver different benefits. Multi-strain probiotic products may appear to be useful for gut care but may not actually assist in gut health or digestion; may have very little pure science behind them; may have low potency, and may contain strains that do not benefit the

**PROBIOTIC BRAND COMPARISON OF PROPERLY IDENTIFIED STRAINS**

<table>
<thead>
<tr>
<th>NUMBER OF STRAINS</th>
<th>NATREN 100%</th>
<th>Product A 8%</th>
<th>Product B 0%</th>
<th>Product C 0%</th>
<th>Product D 14%</th>
<th>Product E 0%</th>
<th>Product F 0%</th>
<th>Product G 0%</th>
</tr>
</thead>
</table>

**NOTE:** Graph findings based on gathered information from a random sampling of popular probiotic brands found in health food stores.
user. If you had 1000 plough horses show up at the Kentucky Derby, would any one of them win the race? Plough horses, no matter how many, will not win the race. Plough horses are the wrong horses for the job.

Make sure that all strains used in a probiotic product have been shown to have a beneficial effect on the host (such as its ability to produce beneficial products like hydrogen peroxide or antimicrobial compounds) and are not being added to the mixture to provide filler. Using a strain that has been shown to have multiple health benefits is preferable to using multiple strains that may not provide any benefits.

5) Virtually all of the multi-strain products that contain 6, 10, 12 or more strains are probably coming from the same manufacturer. Most probiotic products are contract produced by just a few manufacturers and then distributed to 50 or more individual private companies, ending up with different labels with different ingredient statements. Often, you’re paying for marketing hype rather than a quality product. Most probiotic species and strains listed have to be alive to confer a health benefit. The only way to test for living "good" bacteria is to measure what is called colony forming units (CFU). CFU measure the individual living bacteria that can divide and form other cells.

6) Often in a multi-strain product, the total amount of probiotics is given without identifying how much of each strain is in the mixture. Know how much you are getting. You would not want to take a vitamin supplement that has plenty of vitamin A in it, but little or no vitamin B. Likewise; you need to ensure that you are getting the amount of probiotics needed to provide a health benefit. Look for labels where the amount of each probiotic strain is guaranteed through to an expiration date. Avoid probiotic products that state “potency at the time of manufacture”.

7) The only "good" bacteria is a live bacteria. All probiotics species and strains listed have to be alive to confer a health benefit. The only way to test for living "good" bacteria is to measure what is called colony forming units (CFU). CFU measure the individual living bacteria that can divide and form other cells.

Some companies count probiotics using methods not accepted by the scientific community such as by weight or by other means that measure both living and dead cells. Look for a probiotic supplement where each strain is measured using CFU, and the potency is guaranteed through to an expiration date. Why would anybody want to pay for dead cells?

8) Research on multi-strain mixes may not mimic conditions seen in a commercial product. Probiotics' competition to eliminate and inhibit other strains was demonstrated in a paper on a multi-strain probiotic mixture [4], but the testing was done under laboratory conditions in a way that did not mimic the conditions of probiotics on a store shelf.

In this paper, each strain was measured using a method that measures both living and dead cells, so the amount of living cells
of each probiotic strain was unknown. Therefore, we still don't know what live bacteria will be left on the shelf after they get finished trying to knock each other off.

Additionally, while there is some evidence that multi-strain probiotic products may have benefits under clinical or laboratory conditions, the evidence that multi-strain products are more effective than their individual components is not as clear. Individual components have not been tested side-by-side with the multi-strain mixture, or the doses of each were not the same. This is comparing apples to oranges.

In a study by Viljanen et al., fecal markers were measured in food-allergic infants with atopic dermatitis. Infants were either given Lactobacillus rhamnosus GG or a mixture of four probiotic strains that included Lactobacillus rhamnosus GG. Results showed that the effects were similar between the single probiotic and the mixture. This suggests that in this case, the presence of the other strains may not be useful.

Due to the uncontrolled competition between strains, the composition of multi-strain products changes continually. You don’t know if you’re getting the same mix of microorganisms from batch to batch, or that were used in the clinical trials. It should be the manufacturer’s responsibility to ensure that each time you buy the product, you are getting the same mix. That’s why Natren only uses a maximum of three organisms from safe and vigorously studied and tested species that have been used for decades.

Astonishingly, one manufacturer even says on their website that some of their bacterial species may no longer be present in their product at the time of consumption.

9) You get what you pay for. A low retail price is a troublesome deciding factor, and not indicative of the true value of a probiotic product.
As a developmental scientist, Natasha Trenev has spent years studying the effects of beneficial bacteria, and has written several books on the subject. Her work is so respected that her 1995 probiotic product labeling standards were read into the U.S. congressional record, and are currently cited by many as the probiotics industry standard. She was invited to speak about probiotic benefits at the world Health Organization Congress of Health in Adelaide, Australia.

She is also known for her innovative Trenev Process, in which a unique protective oil matrix delivery system micro-enrobes bacteria strains in special oil to ensure the quality and potency of the live bacteria in Natren probiotic products during their passage through harsh stomach acids.

References: