



THE TRUE COLORS OF PROBIOTICS

Nearly 4 million people a year swallow them, hoping to balance their bellies, soothe their skin, eliminate allergies, even ease depression. But could the claims about these friendly strains of bacteria be...fraudulent? *WH* puts them under the microscope.

BY LAURA BEIL

There are foods with health halos. And then there are probiotics, which have practically been canonized. The word itself means—no big whoop—“to give life.” Probiotics are now a nearly \$37 billion industry in the U.S. Sales of probiotic-rich yogurt and kefir surged nearly 30 percent in the past three years. And just slapping “contains probiotics” on a product helps it sell better, says San Diego attorney Tim Blood, who specializes in consumer protection in advertising. Not too shabby for bacteria, right?

Indeed, their initial claim to fame was hardly sexy: soothing digestive disorders such as diarrhea, constipation, and acid reflux, which plague 70 million people (mostly women). But that take on pro-b's now feels as dated as a Jamie Lee Curtis *Activia* ad.

In their second act, probiotics—both in food and supplement form—are being promoted as a magic wellness bullet, said to defeat allergies and depression, boost immunity, and even combat chronic conditions like Alzheimer's, diabetes, and migraines. As a result, they're no longer limited solely to foods that naturally contain them (such as yogurt and fermented fare like kimchi and miso); everything from bottled water to tortilla chips is being laced with the friendly microbes.

Look, it makes sense that the gut would be ground zero for easing all kinds of ailments. In the past decade, scientists have discovered that the three pounds of microbes inside the digestive system—some 40 trillion bacteria, fungi, and viruses collectively known as the microbiota—aren't squatters mooching off a nutrient-rich environment. They're like a living organ unto themselves, working with the body to lap up

nutrients from food, squeeze out germier invaders, and calibrate our immune systems. And since changes in the microbiota have been linked to gastrointestinal conditions like irritable bowel syndrome, adding “good” bacteria in the form of probiotics *should* boost your health.

But put down your kombucha, friends, because science has not quite proven that's the case yet, says Robert Hutkins, Ph.D., a scientist at the Nebraska Food for Health Center in Lincoln. Of the hundreds of identified probiotic strains, studies have only ID'd a handful that are helpful in treating specific conditions (see “Go Pro,” opposite page). And there's no evidence they have much effect on the microbiota of *healthy* individuals, per recent studies. Officials in the E.U., where supplements are more heavily regulated than in the U.S., haven't authorized the use of the word *probiotic* to back any health claim. The only approved use related to microorganisms is “live yogurt cultures and improved lactose digestion.” It can all feel like, well, a punch to the gut. So we asked scientists at the forefront of probiotic research to help us separate fact from hype, and pros... from cons.



Kimchi: funky taste, friendly benefits

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1 THEY'RE ONLY VISITING.

When you nosh or swallow a probiotic, it doesn't take up permanent residence in your intestinal ecosystem with the bacteria that's there already, says Hutkins. It might help crowd out a microorganism that's making you sick (which is likely why probiotics have proven most useful against infectious diarrhea), but it eventually just passes through the gut. That's why it's impossible to take too many; you'll just poop them out. This in-and-out nature also means that if you're aiming for a health benefit, you need to ingest them almost daily.

2 YOU MAY NOT BE CONSUMING A-LISTERS.

Many of the probiotic strains added to foods are chosen because they are safe and can be manufactured cheaply and easily. They're not necessarily the ones that are best at maintaining health or treating disease. Researchers are still trying to determine which strains are optimal for specific conditions.

3 THE DETAILS MATTER.

Make sure you have the right strain for your health problem (get specific; some, like *Lactobacillus*, have multiple forms, such as *Lactobacillus acidophilus* and *Lactobacillus reuteri*, which help with different conditions). Check that there are at least 1 billion CFUs (colony-forming units) per serving, the approximate amount shown to be

beneficial. If the latter isn't on the label, don't assume you're getting it. Consumer Lab, an independent group that tests supplements, found CFU counts ranging from 2.5 million per serving to around 900 billion. For kefir and yogurt, look for “live cultures” or “live active cultures.”

4 THEY'RE SENSITIVE.

Mind the shelf life. Even if a product's label shows it has the jackpot billion CFUs, they may not all be present when you swallow the pill. That's because probiotics are living organisms; they can die when it's too hot (if the label says to refrigerate, do it), and if they swelter too long in transit or on a shelf, the bacteria may be DOA. Meaning, if you're out running errands, pick up your probiotic supplements last, as they may lose some of their potency if left in a hot car. The good bugs also decay over time, so when you're shopping, choose the container with the furthest-out expiration date.

5 STOMACH ACID IS THEIR KRYPTONITE.

Some strains can't survive the acidity of your gut. So if you're taking a supplement, make sure it's coated; the outer shell will help it reach your intestines intact. If you can find only an uncoated version, take it with food to help protect it from the aggressive environment.

6 IT'S NOT ONE-STRAIN-FITS-ALL.

Even with antibiotic-associated diarrhea, which has the best evidence, “you could have seven people take the same probiotic and only have one report a definite difference,” says gastroenterologist Matthew Ciorba, M.D., a medical professor who studies human gut microbiota at Washington University School of Medicine in St. Louis. That's because each person's microbial makeup is as unique as a fingerprint, influenced by age, genetics, and gender. For example, animal research from the University of Texas at Austin found the microbes living in the guts of males and females react differently to the same diet. Scientists are now studying ways to harness a person's own microbes to treat illnesses, rather than going for a mass approach.

7 PROBIOTICS NEED PREBIOTICS.

The bacteria in your gut—both visitors and residents—need to eat too. Enter prebiotics, nondigestible carbs that feed friendly bacteria and help them multiply. They may even be helpful on their own, at recalibrating microbiota that have been thrown out of whack by stress; a recent study found mice who ate prebiotics slept better after a stressful experience. Hutkins advises taking them daily in the form of food, not pills, because it's difficult to get the needed amount from a supplement. Prebiotics are found in whole-grain oatmeal, bananas, onions, garlic, and asparagus. ■

Go Pro

The jury's still out on most probiotic strains, but researchers have evidence that these good-natured microbes can help many people with certain conditions. Consume daily as long as needed unless the label says otherwise.

FOR DIGESTIVE HEALTH

Lactobacillus acidophilus

FIND IT IN

Some yogurt and kefir (check the label), miso, tempeh, and kimchi

HELPS WITH

Antibiotic-associated diarrhea (such as *Clostridium difficile* infections) and irritable bowel syndrome

FOR VAGINAL HEALTH

Lactobacillus reuteri

Lactobacillus rhamnosus

FIND THEM IN

Supplements such as Fem-Dophilus and UltraFlora Women's

HELPS WITH

Preventing recurring yeast infections and bacterial vaginosis

FOR IMMUNITY

Lactobacillus plantarum

FIND IT IN

Most fermented foods

Lactobacillus paracasei

FIND IT IN

Some yogurt and kefir (look at the label); supplements such as UltraFlora Cold Support

HELPS WITH

Warding off viruses and easing cold symptoms; take at the first sign of getting sick

Source: Alliance for Education on Probiotics, an industry consortium

Gut Feelings

Researchers have long suspected that your gut bacteria can “talk” to your brain in ways that affect mood. Now, they're eavesdropping on those chats. Irish researchers dubbed gut microorganisms that may help a person's mental state “psychobiotics,” and early studies have shown that increasing the number of one strain of probiotic, *Bifidobacterium longum*, can reduce depression, anxiety, and stress. If ongoing research backs this up, doctors may one day prescribe probiotics alongside meds.