

Just how friendly are those probiotics in your food?

June 19 2009, By Julie Deardorff

Ready for some live, active cultures in your chocolate? How about your breakfast cereal? Probiotics, the so-called "friendly" bacteria with health benefits, have busted out of the dairy case and are colonizing other areas of the supermarket.

The bacteria, which occur naturally in fermented foods such as yogurt, kefir and miso, are thought to aid digestion and support the immune system by balancing the intestinal ecosystem.

But as manufacturers add the microbes to everything from infant formula and fruit juice to pizza, muffins and granola bars, experts caution that the word "probiotic" is widely misused by industry and misunderstood by consumers.

While there are thousands of different [bacterial strains](#), only a few dozen have been tested for health benefits. And though studies suggest some products may offer relief to people with digestive issues, it's not known whether healthy people receive any benefits from snacking on live "bugs."

The European Union Food Safety Authority this week started a process to regulate health claims on products, including probiotics. And a pending class-action lawsuit alleges Dannon misled consumers about the benefits of Activia and DanActive, both marketed as probiotics.

Dannon denies using deceptive advertising and is standing by the claims

and the studies that supported them. But a spokesman agreed it's buyer beware at the market.

"We're on the front lines; we see a lot of confusion," said Dannon's Michael Newirth.

There is no standard definition of probiotics, according to the U.S. [Food and Drug Administration](#), but scientists generally say the term refers to foods, beverages or supplements containing live [microorganisms](#) that studies show promote health when people take enough of them. Without studies, they shouldn't be called probiotic, scientists say.

"Sadly, of the hundreds of new products launched in recent years, very few have been shown to be probiotic," said probiotic researcher and developer Gregor Reid, a microbiologist at the University of Western Ontario and the president of the International Scientific Association for Probiotics and Prebiotics.

Though probiotics are not a new invention -- they also are found in breast milk -- researchers are just beginning to understand the role they can play in regulating the immune system and managing disease.

Scientists can't yet explain exactly how probiotics work, but it's thought they can help restore beneficial bacteria in the intestinal tract. "Some (bacteria) can produce enzymes that help digest food while others can synthesize vitamin K in the gut or even help stimulate the immune system," wrote Joe Schwarcz in "An Apple a Day: The Myths, Misconceptions and Truths About the Food We Eat."

The bacteria may produce antibodies for certain viruses, produce substances that prevent infection or prevent harmful bacteria from attaching to the gut wall and growing there, according to the American Gastroenterological Association. But if those bacteria are wiped out by

disease or medication, potentially harmful microbes may flourish.

The strongest studies have found that a few probiotics (Lactobacillus GG and the yeast *Saccharomyces boulardii*) can help with common gastrointestinal disorders that may involve an imbalance of gut bacteria.

"They are most effective for diarrhea due to rotavirus, and if given early in the course of the illness," said Stefano Guandalini, professor of pediatrics and chief of gastroenterology section at the University of Chicago Comer Children's Hospital. "They've been also shown to reduce the incidence of post-antibiotic diarrhea _ which occurs in up to 40 percent of children taking antibiotics."

There's also growing evidence that children with ulcerative colitis can benefit from a proprietary mixture of eight strains called "VSL #3," Guandalini said. And certain probiotics have been shown to reduce symptoms of irritable bowel syndrome.

But more research is needed for almost all other conditions, including cancer, oral health, allergies, skin conditions and obesity.

For the consumer, finding the right probiotic can be vexing. Labels can't legally declare that the probiotic can cure, treat or prevent disease. So health claims, which don't require FDA approval, are often vague.

For example, Kashi's "Vive" is called a "probiotic digestive wellness cereal," one that "may restore your digestive balance."

And it may -- each serving contains a whopping 12 grams of fiber. But the probiotic used -- *Lactobacillus paracasei* ssp *paracasei* F19 -- has not been tested in humans eating Kashi Vive. And there's no guarantee that the microbes in the dry cereal are alive.

To make things more complicated, probiotics interact with bacteria already in the body and everyone has slightly different microflora, said probiotic expert Gary Huffnagle, a professor of internal medicine and microbiology at the University of Michigan Medical School. So a product that works for one person might not be the right one for another.

Still, Huffnagle says one of the best things about probiotics is they're safe and your own trials should yield answers in a few weeks.

Bonnie Thompson, 43, of Fort Collins, Colo., who suffered from irritable bowel syndrome for decades, tried several different brands before finding one that worked: the Garden of Life supplement called Primal Defense.

Ultimately, Thompson found the most effective probiotic was her own homemade kefir. "I credit it with normalizing my bowel function," she said.

NAVIGATING THE LABEL

Just because a food product says "probiotic" doesn't mean it's a probiotic. Even more aggravating, manufacturers often leave important information off the label, such as whether the product contains live organisms or the full name of the bacterial strain. Some advice:

Watch the dates: The organisms can die off while the product is sitting on the shelf. The best way to ensure it has an effective number of live bacteria is to look at the "best by" or expiration date.

Get enough microbes. Easier said than done. There is no single dosage for probiotics; studies have documented health benefits for products

ranging from 50 million to more than 1 trillion colony-forming units (the measure of live [microbes](#)) per day. The amount you need is the amount that the study on your product showed was effective. There is a clinical study, right?

Scour yogurt labels. Look for yogurt products with "live and active cultures" and avoid the ones that say "made with active cultures." Those may have been heat-treated after fermentation, which kills the bacteria. Also, Acidophilus and Bifidobacteria are less sensitive to stomach acid and more likely to make it into the colon alive than other names you might see on the label, such as Lactobacillus bulgaricus and Streptococcus thermophilis.

Scour yogurt labels, part II. Remember that even "live, active cultures" aren't necessarily probiotics, meaning they may not have been tested for health benefits.

Speak the lingo. A probiotic is defined by its genus (e.g. Lactobacillus), species (e.g. rhamnosus) and strain (a series of letters or numbers). "Products that list the genus and species and also the strain tend to have inherently better quality control and products," said probiotics expert Gary Huffnagle.

Watch for too-perfect names. Dannon calls its bacterial strains Bifidus Regularis (in Activia) and L. casei Defensis (in DanActive) -- for marketing purposes. These are made-up, consumer-friendly, trademarked names.

BACTERIA ON THE MARKET

As consumers seek natural ways to improve their digestive health,

manufacturers are touting the benefits of food products containing allegedly helpful bacteria. Here's how some examples stack up:

DanActive 'Immunity' probiotic dairy drink

What is it? Fermented milk.

Claim: "Clinically proven. Helps strengthen your body's defenses. About 70 percent of your immune system is in your digestive tract. This is where DanActive goes to work with the exclusive 'L. casei Immunitas' cultures."

Cultures: *Lactobacillus casei* DN-114 001, which Dannon has redubbed *L. casei Immunitas*.

Dose: 10 billion, according to the Danactive.com Web site.

Of note: The bottle doesn't list the number of organisms. A class-action lawsuit claims Dannon has falsely advertised the benefits of its Activia, Activia Lite and DanActive products, a charge it denies.

GT's Organic Raw Kombucha

What is it? Chinese tea, cultured for 30 days.

Claim: "An elixir that immediately works with the body to restore balance and vitality."

Cultures: *Lactobacillus* and *Saccharomyces boulardii*.

Dose: 1 billion organisms of each strain.

Of note: Consumers are missing a critical piece of information_the species and strain of lactobacillus_so it's impossible to tell if any research has been done. The company says the strands of culture floating in the bottle are an indication the product is living and active. But it looks disgusting.

Kashi Vive Probiotic

Digestive Wellness Cereal

What is it? Cereal.

Claim: "Each serving of Kashi Vive includes the helpful bacteria Lactobacillus acidophilus, just like in your favorite yogurt."

Culture: Lactobacillus acidophilus LA14.

Dose: Each serving contains 1 billion organisms.

Of note: The dosage isn't listed on the box. Just because Lactobacillus acidophilus has been tested in yogurt doesn't mean the health benefits translate to dry cereal. Kellogg's-owned Kashi won't disclose how the organisms survive in a dry product. Kashi chose the strain because it survives digestion, but it's unclear what happens after that.

Attune chocolate probiotic bar

What is it? Chocolate bar.

Claim: "Five times the live cultures as yogurt."

Cultures: Lactobacillus acidophilus NCFM, Lactobacillus casei Lc-11 and Bifidobacterium lactis HN019.

Dose: Each bar has more than 6.1 billion live organisms throughout the shelf life.

Of note: Each strain is used in the same quantity tested in clinical trials. Chocolate's low water content helps keep the product stable. Chocolate may be an optimal way to get viable probiotics into a food product, but more research is needed.

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