



## Beyond Digestion & Immunity

# HEALTH BENEFITS OF PROBIOTICS



Probiotic cultures, once known only for their role in making fermented foods, have perked the interest of scientists. New studies are uncovering the many benefits of probiotics that go well beyond their traditional role in digestive health. They have been found to promote a strong immune system, weight management, oral health, and even brain health and skin health.

There has been a huge increase in consumer awareness and demand for foods and supplements that promise probiotics, with increasing scientific evidence supporting their health impact.

The recognition of the importance of colonising microbes by the scientific community is reflected in the top priorities of the **US National Institutes of Health (NIH)**-funded medical research. A 7-year project scheduled to be completed in 2015, called the **Human Microbiome Project**, aims to develop tools and datasets for the research community studying the role of these microbes in human health and disease.<sup>1</sup>

The importance to consumers is demonstrated by the fact that probiotics have become one of the fastest growing supplement segments with double-digit growth globally, and 14% growth for probiotic products in the US reported by SPINS for 2012. The global market for probiotics is expected to exceed US \$31 Billion by 2015.<sup>2</sup>

In this issue of *News You Can Use*, we have highlighted some of the new scientific applications of probiotics in order to help you choose the one that is right for you.



## What Are Probiotics?

**The word probiotic literally means “for life.”** Probiotics are beneficial bacteria that can help promote digestive system balance, improve regularity, strengthen immunity, and even help synthesise certain vitamins in the body.



The World Health Organization (WHO) defines probiotics as, “cultures of live microorganisms that when ingested in adequate amounts, confer health benefits on the host.” While the thought of having live microbes in the body may be disconcerting to some, the fact is the human body contains trillions of microorganisms - outnumbering human cells by 10 to 1, making up about 1-3 kilograms of our body weight.<sup>3</sup>

Awareness about beneficial bacteria and their positive impact on health is relatively new, but continuing to gain understanding and acceptance among the general public.

The gastrointestinal tract is home to a diverse and complex bacterial ecosystem called the intestinal microflora, which can contain both “good” and “bad” bacteria. Most are harmless, but when the intestinal microflora is out of balance, it can affect overall health. Probiotics are “good” bacteria that in addition to providing health benefits keep the “bad” bacteria in check - thereby helping restore the natural, healthy intestinal microflora balance.

### prebiotics and probiotics

**PREBIOTICS** are non-digestible food ingredients that stimulate the growth and/or activity of beneficial bacteria. These are long-chain polysaccharides such as inulin and fructooligosaccharides found in raw foods such as bananas, agave, asparagus, Jerusalem artichokes, and onions. You can think of them as ‘fertiliser’ that helps the probiotic ‘seeds’ to grow.



**COBIOTICS**, unlike prebiotics, are food nutrients that are utilised by us as well as our probiotic flora and encourage the growth of good bacteria. Emerging research is pointing towards polyphenols, such as those found in berries to provide gastrointestinal and glucose modulation benefits due to their probiotic effect.



## What Can Probiotics Do For Us?



### NORMALISE INTESTINAL FUNCTIONS

- **Aid in digestion:** help restore normal intestinal functions and even support the production of some digestive enzymes.
- **Improve lactose intolerance**<sup>4,5,6</sup>: by secreting lactase, an enzyme that helps digest lactose found in dairy products. This helps those that get indigestion resulting from insufficient lactase.
- **Inhibit the growth of disease causing bacteria:** produce lactic acid, thereby increasing the acidity of the intestines and inhibiting growth of pathogenic bacteria such as *Clostridium*, *Salmonella*, *Shigella* and *E. coli*.
- **Aid the absorption of minerals:** especially calcium due to increased intestinal acidity.
- **Prevent diarrhoea associated with antibiotic use**<sup>7,8</sup>.
- **Prevent traveller's diarrhoea:** Improve gut barrier function by fortifying the epithelial layer thereby preventing access for harmful bacteria.



Specifically, gouda cheese is especially rich in probiotics



### REGULATE IMMUNE RESPONSE

In more recent years probiotics have gained attention for their properties of boosting the body's resistance, preventing infection and suppressing allergies.

- **Immune development**<sup>9,10</sup>: by strengthening innate immunity. There is evidence that suggests that probiotic consumption enables people to stay healthy by reducing the incidence of common infections and diseases thereby reducing absence from work or daycare. A recent double-blind placebo controlled study with 425 people published in the *European Journal of Clinical Nutrition* showed hay fever sufferers may benefit from daily probiotic supplements.<sup>11</sup>
- **Natural infection prevention**<sup>12</sup>: Probiotics have been associated with the production of a wide range of antibiotic substances (acidophilin, bacteriocin, etc.), which help control the level of pathogenic bacteria and fungi such as *Candida*. Research has shown that probiotics may boost immune health in children, and prevent many viral and bacterial infections.<sup>13</sup>
- **Alleviating food allergy symptoms in infants.** Studies have also suggested that probiotics reduce the incidence of atopic dermatitis when given to babies born to families at risk for allergic disorders.



### HELP IN WEIGHT LOSS

A recent study published in the *British Journal of Nutrition* showed that certain probiotics could help women lose weight and keep it off by helping reset the balance of the intestinal microbiota in favour of bacteria that promote a healthy weight.<sup>14</sup>



### AID IN DETOXIFICATION

Research has shown that healthy populations of beneficial microflora also play a crucial role in detoxification of harmful chemicals in the colon. They decrease the production of a variety of toxic or carcinogenic metabolites. For instance, *Lactobacillus acidophilus* can suppress the formation of cancer-causing amines and cancer-promoting enzymes in the intestines.



### foods rich in probiotics

- Yoghurt
- Buttermilk
- Sour cream
- Cheeses
- Acidophilus milk
- Bulgaricus milk
- Yakult



### PROMOTE LONG-TERM COLON HEALTH

In addition to reducing the levels of toxic/mutagenic compounds, Lactobacilli and bifidobacteria also actively support healthy colon cells.<sup>15</sup> Recent research cited in the *Journal of Experimental Medicine* revealed that the makeup of gut microbes might be a risk factor for colorectal cancer and intestinal tumours in addition to genetics.<sup>16</sup>



### SUPPORT HEART HEALTH

Most people do not associate gut health with heart health, but according to the results of a recent review consumption of certain probiotics may help lower LDL cholesterol and other risk factors for CHD. The study examined 26 clinical studies and two meta-analyses. It also lowered total cholesterol and improved inflammatory biomarkers.<sup>17</sup>



### MAINTAIN ORAL HEALTH

A review of scientific studies published in the *European Journal of Dentistry*, focusing on probiotics lactobacilli and bifidobacteria reported an association of consumption of products containing these cultures with periodontal disease, dental caries, oral candida as well as halitosis (bad breath).<sup>18</sup>

# HOW PROBIOTICS WORK FOR YOU



#### IMMUNITY

Strengthen innate immunity  
 –Reduce food allergy symptoms in children

#### BALANCED INTESTINAL MICROFLORA

Keep "bad" bacteria in check  
 –Prevent traveller's diarrhoea  
 –Control Irritable Bowel Disease (IBD) and Irritable Bowel Syndrome (IBS)

#### METABOLISM

Synthesise B-Vitamins  
 Lower levels of toxic/mutagenic compounds  
 Promote long-term colon health

#### DIGESTION

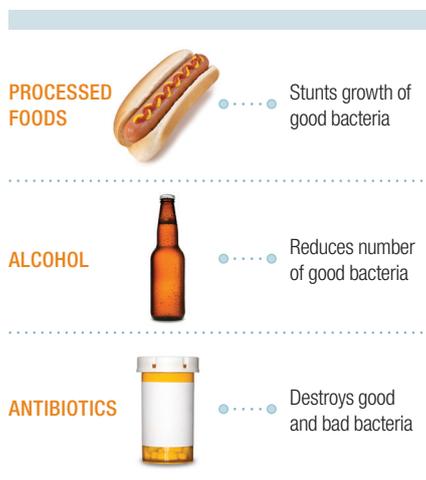
Produce enzymes to digest lactose  
 –Improve lactose intolerance

## Why a Supplement?

Due to our diet and lifestyle there are many challenges to healthy intestinal microflora balance that increase the need for supplementation with probiotics. These challenges include diet and alcohol consumption, use of prescribed antibiotics, and age.

A typical modern diet includes processed foods and is deficient in the natural fibre crucial for the growth of good bacteria. Additionally, alcohol consumption and exposure to toxic substances reduces the number of good bacteria, allowing the balance to shift in favour of bad bacteria. And while prescribed antibiotics play a critical role in combating infection, they can destroy/eliminate both good and bad bacteria.

While foods such as dairy products contain probiotics, they may not contain the necessary live probiotics. Moreover, the strains that they contain may not be able to survive the acidic conditions in the stomach. The use of probiotic supplements can ensure that you are getting an adequate number of the right type of active probiotic cultures.



## The Right Probiotic Supplement

### WHAT TO LOOK FOR...

Many products are available today that claim to be effective probiotic supplements. While these products may contain different bacterial genera, species, or even strains of the same species, not all microbes sold as probiotics have been tested for health effects in human studies. Therefore, not all products should be expected to work the same. Additionally, the presence of live cultures is crucial for efficacy. A study published in the *British Medical Journal*<sup>19</sup> showed that many of the probiotic supplements sold on store shelves contained little to no active bacteria. Here are a few things to look for when choosing the right probiotic supplement:

- **Presence of live cultures:** In order for probiotics to confer their health benefits, they must be live and active at consumption and stay active until they reach the intestines.
- **Whole food derived:** Lactic acid bacteria found in dairy products have been used for thousands of years to produce yoghurt, cheese, and fermented milk. Beneficial bacteria isolated from cultured dairy foods have been shown to support a healthful balance of microorganisms in the gastrointestinal tract.
- **Broad spectrum of clinically tested bacterial strains:** Each strain of beneficial bacteria is unique. Each produces special enzymes, detoxifies different substances, and colonises distinct territories in the intestine. For this reason, a broad spectrum of organisms with clinically proven benefits



is recommended. Recent research shows that a combination of different probiotic strains - as opposed to single strains - reduces the ability of potentially pathogenic bacteria - bad bacteria - to colonise the gut.<sup>20</sup>

- **Concentrated:** Concentrated supplements of active probiotics are valuable since they provide many more beneficial bacteria than traditional food sources - such as yoghurt and acidophilus milk - and are more convenient to consume daily.
- **Potent, with guaranteed delivery:** In order to provide full benefit, a supplement must be potent - with an adequate number of live microorganisms - and provide these good bacteria with protection against the stomach acid which can inactivate them. This protection ensures delivery into the intestine where the probiotics deliver their benefits.



#646 – 60 capsules

## Acidophilus Plus

Acidophilus Plus supports optimal digestive and colon health by combining potency with technology to guarantee that live microorganisms survive the stomach acid and reach the intestine to deliver viable organisms.

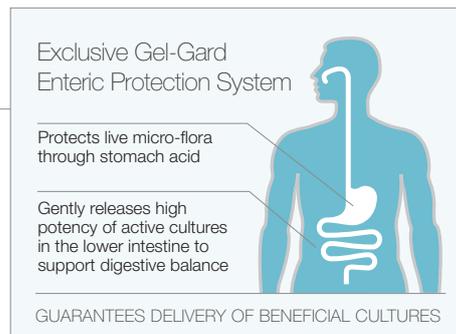
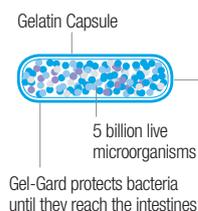
- Each capsule is filled with **five billion 'live' microorganisms** - as many as in 10 servings of yoghurt - all in one daily serving!
- You receive beneficial bacteria isolated from cultured dairy foods, so you get the **benefits without the extra calories** from these foods.

## PAY LESS FOR YOUR DAILY DOSE OF PROBIOTICS

- Five billion 'live' microorganisms in one capsule of Acidophilus Plus - the same as 10 servings of yoghurt!



- Acidophilus Plus provides an **exclusive blend of five types of clinically proven lactic acid-producing bacteria**: *Lactobacillus acidophilus*, *Lactobacillus bulgaricus*, *Lactobacillus casei*, *Bifidobacterium bifidum*, and *Streptococcus thermophilus*.
- **Exclusive Gel-Gard enteric protection system guarantees delivery** by protecting against harsh stomach acid and ensuring that maximum numbers of live bacteria are delivered in the intestine. ■



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