

# The Microbiome and Immunity

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## THE MICROBIOME

The human gastrointestinal tract is home to trillions of microbes called the gut microbiome. Our microbiome plays an active role in our immune system, as well as mental health and bodily functions.

When there are adverse changes or an imbalance of the microbiome, known as dysbiosis, our overall health and immunity may be affected. This balance can be disturbed during times of stress, with age, in menopause, when taking medications, with an unbalanced diet, and in the event of acute or chronic intestinal disease. However, our diet is considered to be one of the largest contributors to these changes in diversity.

Two parts of our diet that are uniquely able to affect the microbiome are probiotics and prebiotics. **Probiotics are “good” bacteria.** They are live microorganisms similar to the ones already living in the gut and may offer health benefits when consumed in adequate amounts. They’re found in fermented foods and dairy products such as kefir, probiotic beverages as well as dietary supplements. Prebiotics are non-living, non-digestible carbohydrates naturally found in a variety of foods, including fruits, vegetables, legumes, and whole grains. The body

actually can’t digest prebiotics, rather they’re what probiotics feed off of to remain actively working in the digestive system. Together, they help create a balanced gut to keep our immune system and mind healthy.

## A FOCUS ON IMMUNE BENEFITS

Our immune system and reducing inflammation in the body is often top of mind, especially during sick season.

**We know that 70-80 percent of the (immunoglobulin-producing) cells that make up the immune system are located in the gut, making it the body’s largest site of immunological response.**

Therefore, when our microbiome is out of balance, known as dysbiosis, that imbalance may adversely affect our immune system leaving us susceptible to infections and disease. Probiotics consumed in our diet, such as those found in Lifeway products, may help balance our microbiome, making them a vital part of our immune boosting toolkit to keep us healthy.

## FOOD AS MEDICINE

**One of the simplest things we can do is stock up on healthy, immune-boosting foods.** In particular, probiotics consumed in our diet, such as those found in cultured dairy products like kefir, may help balance our microbiome, making kefir a vital part of our immune-boosting toolkit to keep us healthy.

When our immune system is in check, there may also be economic benefits. **Research shows that probiotics have a positive impact on the health** of people with flu-like respiratory tract infections by boosting the immune system and response. In turn, this could lead to health care savings by reducing the number of sick days per year by 54 million (a decrease of 61%), reducing the visits to doctors and decreasing antibiotic prescriptions by 2.2 million. Estimates indicate that more than \$900 million could be saved annually with the benefits of consuming probiotics.

## Each 8-ounce serving of Lifeway Kefir contains 12 live and active cultures and 25 to 30 billion beneficial CFU

(Colony Forming Units) to help maintain a healthy and balanced gut.

In addition, an 8-ounce serving of kefir is excellent source of protein, vitamin D, riboflavin, calcium and phosphorus, and a good source of vitamin A, vitamin B12, potassium and selenium, nutrients needed for everyday health.



# How probiotics work

with the immune system

The probiotics found in Lifeway products **produce mucins that act as a protective barrier from acid, pathogens and trauma in the GI tract.** They also produce B group vitamins and vitamin K, essential vitamins for human health.

The probiotics found in Lifeway products may **decrease pro-inflammatory Th1 and Th17 cytokines** (IL-6 and TNF- $\alpha$ ) concentrations and significantly increase anti-inflammatory (IL-10) cytokine concentrations.

The probiotics found in Lifeway products produce antibacterial metabolites that **may protect against invading pathogens.**