



HOWARU® PROTECT ADULT

Helps Maintain Healthy Respiratory Function

Immune Defense for Overall Health & Wellness

Pollution, allergies, respiratory infections and the increasing prevalence of cold and flu are growing concerns worldwide. For instance, cold and flu now affect adults two to three times each year. Colds and flu are an enormous economic burden, and every year lead to more doctor visits and absences from work than any other illness. Many consumers are aware that by maintaining their natural defenses, they are better protected against environmental challenges. They also understand that diet can influence their natural immune defenses, and there is a growing trend to favor prevention over treatment. Ingredients such as vitamins, minerals and probiotics are already associated with immune health in the consumer's mind.

Helping Adults Stay Healthy Around the Globe



But not all probiotics are the same. IFF scientists have developed HOWARU® Protect Adult (*Bifidobacterium lactis* (HOWARU BI-04™)), a unique proprietary* probiotic formulation to help adults maintain a healthy respiratory function.

Product Attributes

2B CFU

Bifidobacterium lactis (HOWARU BI-04™)

-  Promotes a healthy immune response
-  Helps maintain healthy respiratory function
-  Helps active adults stay healthy



Immune Health



Respiratory Health

Proven benefits of HOWARU® Protect Adult

In a study published in *Clinical Nutrition*, (*Bifidobacterium lactis* (HOWARU BI-04™)), demonstrated a significant benefit to Upper Respiratory Tract illness (URTI) in healthy physically active adults. The study was conducted in Australia by the Griffith Health Institute at Griffith University and the Australian Institute of Sport. The study, West et al. *Clinical Nutrition* 2014, measured the effect of BI-04® on healthy, active men and women over a five-month period. Results showed the prevalence of URTI was less than that of the placebo group by 27%.

The participant group supplemented with BI-04® also experienced a significant delay in the onset of URT illness, with subjects remaining free of upper respiratory tract illness for several weeks longer on average than those in the placebo group.

Upper respiratory symptoms may be a sign of common cold that is typically caused by rhinovirus. The effect of BI-04® on the rhinovirus lifecycle and human immune system was studied in healthy adults at the University of Virginia (Turner et al. 2017). Over 100 healthy adults participated in the clinical trial where BI-04® was supplemented daily for 4 weeks after which rhinovirus was applied to the nostrils of the volunteers to induce mild cold. The results showed that the participants in the BI-04® supplementation group had less rhinovirus in their nostrils over the 5 days following the infection. In addition, changes in the innate immune response were observed in the BI-04® group compared to placebo group.

Key Findings

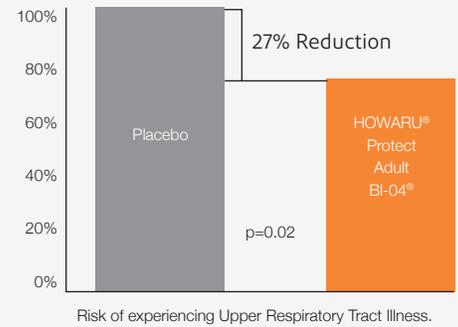
- ✔ Delays onset of URTI episodes versus placebo
- ✔ Supports the immune system in your nasal passages
- ✔ Helps maintain respiratory health in healthy active adults
- ✔ Helps to keep you healthy, longer

*Patent families WO 04/052462 and WO 12/168732

References

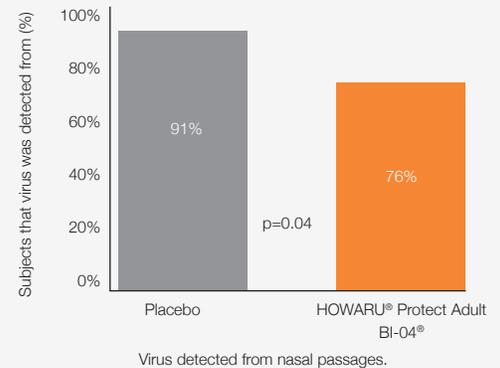
1. West, Nicholas P. et al., Probiotic Supplementation for respiratory and gastrointestinal illness symptoms in healthy physically active individuals. *Clinical Nutrition*, (2014) Volume 33, Issue 4, 581–587.
2. Turner, Ronald B. et al., Effect of probiotic on innate inflammatory response and viral shedding in experimental rhinovirus infection – a randomized controlled trial. *Beneficial Microbes*, (2017) Volume 8, Issue 2, 207-215.

HOWARU® Protect Adult BI-04® Risk of Respiratory Tract Illness Associated Symptoms



Adapted from West et al. 2014

HOWARU® Protect Adult BI-04® Versus Placebo Supports the Immune System in Your Nasal Passages



Adapted from Turner et al. 2017

OUR HOWARU® PROMISE

As a trusted global leader in probiotic solutions, we offer the broadest range of robust, clinically-studied strains. You can be confident that our extensive portfolio, strong consumer insights, and unmatched global support and services make us your ideal partner in probiotic innovation.

Our Strains Area:

- ✓ Backed by Science
- ✓ Identified with complete genome. Every strain has been sequenced and fully assembled
- ✓ Tested for virulence and toxigenic properties and the absence of antibiotic resistance transfer potential
- ✓ Tested for toxicity to confirm safety for human consumption
- ✓ Formulated and evaluated to ensure viability through end of shelf life
- ✓ Generally Recognized as Safe (GRAS) or FDA notified without objection as a New Dietary Ingredient
- ✓ Manufactured in the USA under FDA Good Manufacturing Practices

Exceptional Quality

-  High Performance
-  High Stability
-  High Functionality

Our Areas of Expertise

-  Women
-  Weight Management
-  Immune
-  Oral
-  Digestive
-  Brain

Howaru
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