

A carrot with its green leafy top is suspended by a piece of light-colored twine. The twine is tied to a horizontal wooden stick at the top left and loops around the carrot's stem. The background is a clear blue sky with soft, wispy white clouds.

Catch the Next Big Thing in Immune Health.

Based on Science
Powered by Carrots

BeniCaros™ is a unique, natural, proprietary fiber from upcycled carrot pomace. BeniCaros daily is clinically proven to help support your healthy immune system to be at its best when it matters the most

What is BeniCaros

BeniCaros is not just another functional food or dietary supplement ingredient. It is a natural health ingredient enriched in Rhamnogalacturonan-I (RG-I), a unique proprietary fiber derived from upcycled carrot pomace. Just 0.3g of BeniCaros a day has been clinically proven to support a healthy immune system to be at its best when needed the most. It also helps support gut health by stimulating the growth of good gut bacteria. Weather the weather with BeniCaros.

BeniCaros is designed for functional foods, beverages and supplements to provide the consumer benefit: support your immune system to be at its best when it matters the most

What makes BeniCaros different?

BeniCaros is not just another functional food ingredient or a dietary supplement. Our scientific evidence demonstrates that the way BeniCaros works is unique and differentiating. BeniCaros helps support protective innate immune responses (e.g. IFN) to common colds.

BeniCaros is rooted in nature, scientific knowledge and backed up by clinical and pre-clinical studies, which demonstrate that:

- BeniCaros helps support your healthy immune system so it is ready when you need it the most
- BeniCaros helps support your immune system so that it can be in the best position to respond to cold symptoms.
- BeniCaros also helps support gut health through promoting gut microbial diversity and growth of good gut bacteria
- BeniCaros is made from upcycled carrot pomace

BeniCaros is a health ingredient that addresses the #1 unmet consumer need

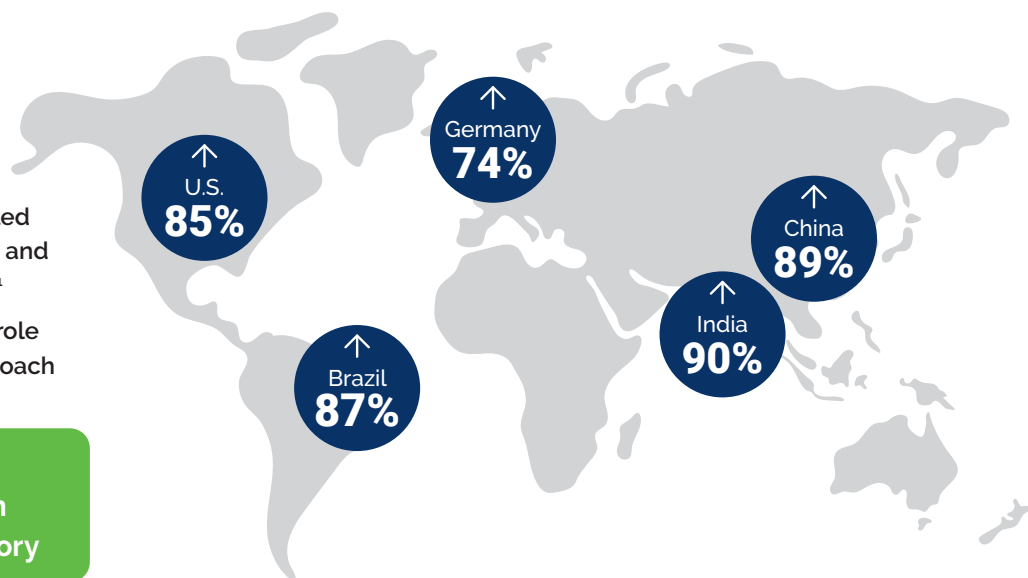
The global pandemic prompted new awareness of overall health with a focus on a healthy, balanced immune system. Consumers are seeking products that support their immune health. Our new ingredient, BeniCaros, meets the #1 unmet need of the consumer in supplements and functional foods by supporting immune health.

Increased consumer interest in foods supporting immune health is nearly universal

#1 unmet consumer need: support immune health

- The COVID-19 pandemic has highlighted the importance of preventative health and ensuring optimal long-term immunity¹
- Functional ingredients can play a key role especially when part of a holistic approach

Functional foods, and supplements designed to support immune health are the fastest growing sales category



¹DSM Global Health Concerns Survey, 2021

Why include BeniCaros in your dietary supplement or functional food (product)?

■ BeniCaros has unique immune health benefits

Daily use of BeniCaros is proven to help support a healthy immune system to be in the best position to respond when needed.

■ Clinically proven

BeniCaros has been tested in high quality clinical trials to demonstrate its beneficial impact on a healthy immune system.

■ Natural

BeniCaros is naturally sourced and produced, with zero artificial additives.

■ Plant-derived

BeniCaros is derived from a unique dietary fiber from carrot pomace.

■ Upcycled

BeniCaros is upcycled from carrot pomace, a by-product of carrot juice production.

■ Market access in US, Europe pending

Toxicity & safety studies, a GRAS Notice has been affirmed by an independent expert panel and has been submitted to FDA for their review.

■ Label friendly

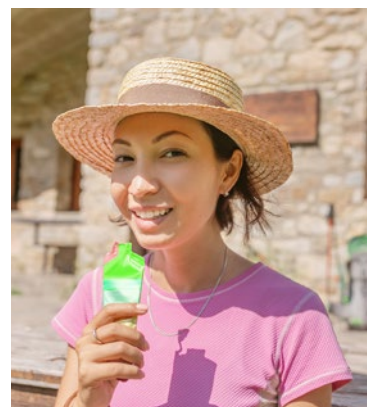
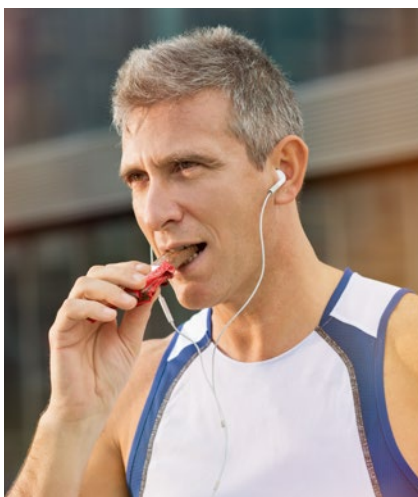
In Europe and in the US, BeniCaros can be included as fiber on the nutrition or supplements fact label. It can be declared as soluble carrot fiber on the ingredient list.

■ Proprietary

BeniCaros is protected by a portfolio of patents.

Broad Applicability

Wide choice of product formats with a daily use level of 0.3 g/day. BeniCaros can be easily applied in most foods, beverages, and supplement formats



We play well with others. BeniCaros comes as a tasteless and odorless powder that formulates well with functional foods and supplements

Natural

Plant-based

Gluten-free

Non-GMO

Halal

Kosher

Heat-stable

Upcycled

Water-soluble

Odorless

Colorless

Tasteless

Why is Immune Health important?

The immune system is your body's surveillance system that responds to infections and helps ensure a healthy life. It is your defense against the various challenges that you encounter every day, most of which are fought off by your immune system without you even noticing. A healthy immune system is in balance and works effectively to quickly eliminate harmful or foreign agents.

Why is it important to train a healthy Immune System?

Just like the muscles and the brain, your immune system needs proper training. When at its best, your immune system can respond very fast to harmful agents aiming to eliminate them before you even notice they are there. A healthy immune system focusses most attention to the gut and the lungs because most health challenges begin there.

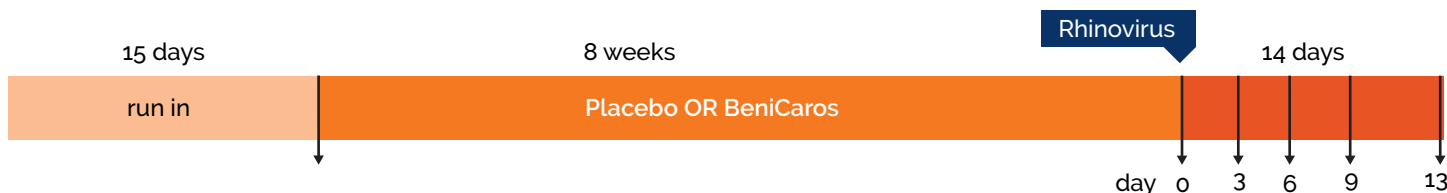
In the gut, the immune system senses what you eat and interacts with the 100 trillion gut bacteria that make up the gut microbiota. These interactions help educate specific cells of the immune system when and how best to respond. Such trained cells travel from the gut throughout the body and support faster responses, where and when needed.

Our scientific research has shown that BeniCaros signals to the immune system and stimulates good bacteria to produce beneficial bacteria and metabolites that support its function. Just 0.3g of BeniCaros daily is clinically proven to support a healthy immune system to be at its best when it matters the most. It also helps support gut health through promoting gut microbial diversity and good gut bacteria growth.

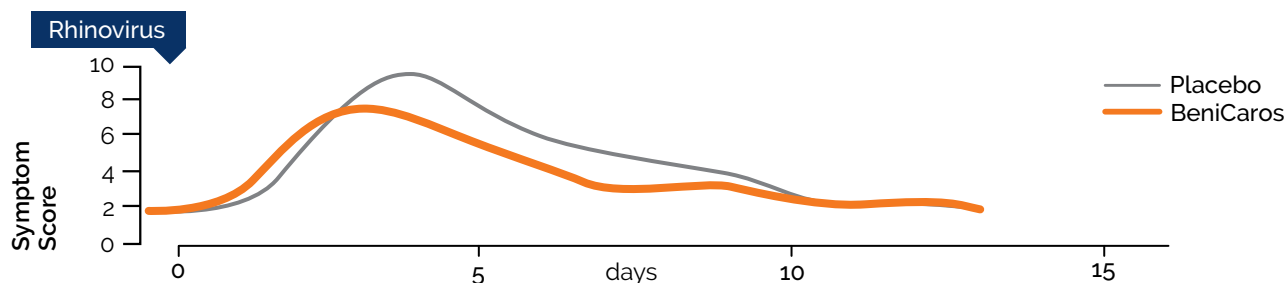
Science behind BeniCaros -scientific evidence

Extensive preclinical studies led to the discovery that BeniCaros is an effective natural compound that, can support immune function^(1, 6), stimulates beneficial microbes and their immune supportive metabolites⁽²⁾, and is safe for human consumption⁽³⁾. Subsequently, a unique product of clinical trial was performed in which healthy volunteers were given a placebo product or BeniCaros. After 8 weeks, they were experimentally administered a common cold virus (rhinovirus) in their nose. BeniCaros supported more effective protective immune responses^(4, 5).

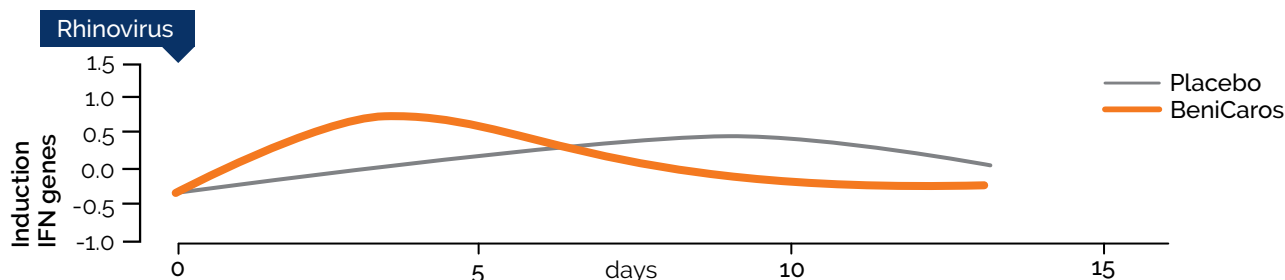
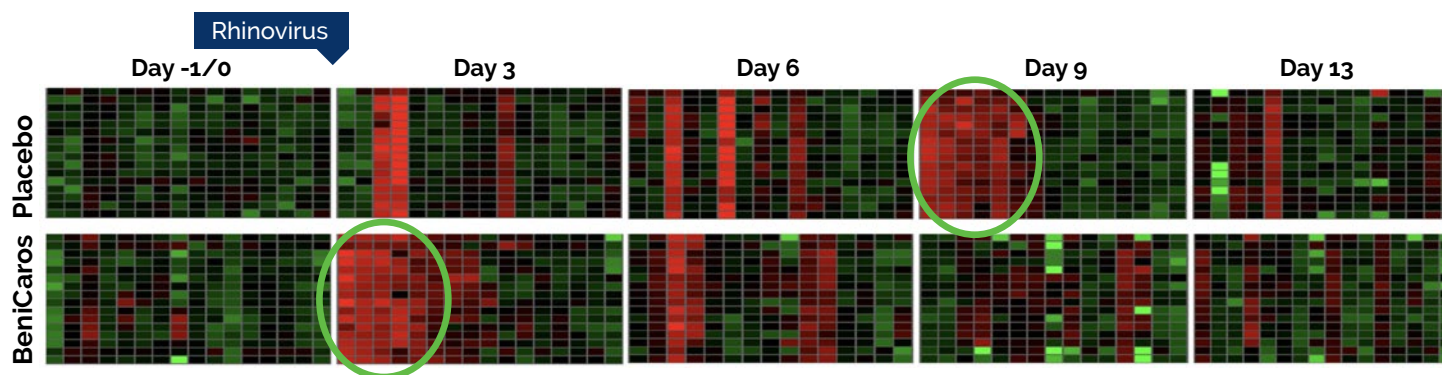
Experimental design of pivotal BeniCaros rhinovirus challenge trial.



WURSS-21 symptom score shows that BeniCaros helps support a healthy immune system response to common cold.



Heat map of transcriptomics data and z-score showing BeniCaros helps support normal immune function by priming the immune system to respond efficiently.



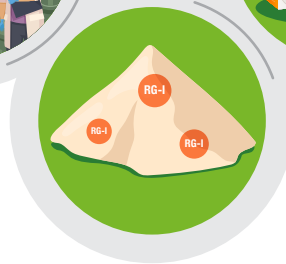
Where does BeniCaros come from?

Carrots are grown
naturally by trusted farmers,
ensuring traceability

The carrots are pressed,
carrot pomace remains

Proprietary extraction
process to unlock RG-I, dried
into powder concentrate

BeniCaros
can be easily added to
various products



The carrots are washed
with water and steam peeled

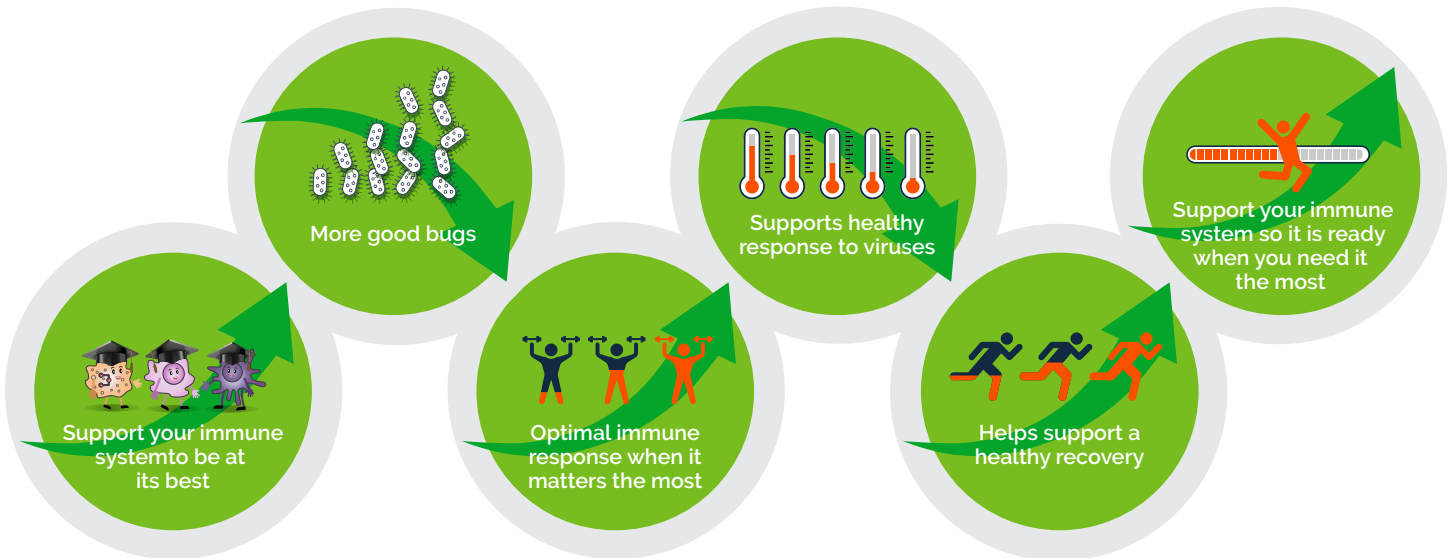
Upcycling carrot
pomace to BeniCaros

NutriLeads ensures the powder
contains enough active RG-I

Did you know that side streams from juice production still contain compounds that have added value for your health?

We make the most of the resources we have and that is why BeniCaros is an eco-friendly ingredient

Why include BeniCaros in your dietary supplement or functional food (product)?



About NutriLeads

NutriLeads is a Health Ingredients Innovator harnessing the health-giving power of natural plant compounds to help people strengthen their health through nutrition

For more information, contact: info@nutrileads.com

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DISCLAIMER: This information is targeted for a B2B audience, it has not been evaluated by the Food and Drug Administration. Neither the information nor any formula(s) mentioned are intended to diagnose, treat, cure or prevent any disease.

References

1. McKay, Sue, et al. "Development of an Affordable, Sustainable and Efficacious Plant-Based Immunomodulatory Food Ingredient Based on Bell Pepper or Carrot RG-I Pectic Polysaccharides." *Nutrients* 13.3 (2021): 963.
2. Van den Abbeele, Pieter, et al. "A novel non-digestible, carrot-derived polysaccharide (cRG-I) selectively modulates the human gut microbiota while promoting gut barrier integrity: an integrated in vitro approach." *Nutrients* 12.7 (2020): 1917.
3. Jonker, Diana, et al. "Safety assessment of rhamnogalacturonan-enriched carrot pectin fraction: 90-day oral toxicity study in rats and in vitro genotoxicity studies." *Food and Chemical Toxicology* 139 (2020): 111243.
4. Lutter, Rene et al. "Dietary intake of carrot-derived rhamnogalacturonan-I accelerates and augments the innate immune and anti-viral interferon response to rhinovirus infection and reduces duration and severity of symptoms in humans" (submitted)
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6. McKay Sue, et al. Pectic polysaccharide RG-I from bell pepper and carrot stimulates protective innate immune response and modulates gut microbiota in humans. *Eur. J. Immunol* 2021. 51 (suppl. 1) 1-448

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