

Nutrition

English / EU version

Lonza

ResistAid™

Supports Natural Immune Function



ResistAid™ for Human Nutrition



Information for Professionals



ResistAid™ supports natural immune function and is a trademark of Lonza Ltd, Switzerland.



What Is ResistAid™?

ResistAid™ is a proprietary natural immune support ingredient manufactured by Lonza. It is produced via a patented water-based extraction process (US 5756098, EP 866808 and other patents) from larch trees that grow in abundance in the United States. ResistAid™ consists of the soluble fiber arabinogalactan and bioactive polyphenolic flavonoids, and thus has antioxidant capacity.



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About Lonza

- Swiss life-science company founded in 1897
- One of the world's leading suppliers to the pharmaceutical, healthcare and life-science industries
- The global leader in the production and support of active pharmaceutical ingredients (API's) based on both chemical as well as biotechnological platforms
- The global leader in microbial control solutions
- The world's biggest supplier of vitamin B₃ (Niacin and Niacinamide) and L-carnitine (Carnipure™)

ResistAid™ Quality and Safety

ResistAid™ Quality at a Glance

- Solvent free, water-based extraction process
- Manufactured according to HACCP principles
- GMP audited by American Institute of Baking
- Kosher certified by United Mehadrin
- GMO free
- Monograph in Food Chemicals Codex (FCC)

ResistAid™ Safety at a Glance

- Larch arabinogalactan is self-affirmed GRAS with US FDA notification
- Larch arabinogalactan is approved by the US FDA as a direct food additive
- No reported side effects, no adaptation period required^{1,2,3}

ResistAid™ Production Process

ResistAid™ is produced by steamheating larch chips to extract the phenolic and arabinogalactan compounds and evaporating the resulting extract. This water-based extraction method is patented (US 5756098, EP 866808 and other patents) and is unique as it does not require any harsh chemicals to release the compounds from the plant matrix. Therefore, the product remains pure and structurally unaltered after extraction.

Larch arabinogalactan (LAG) consists of galactose and arabinose in a 6:1 ratio. It is a long, densely-branched, non-starch polysaccharide consisting of a galactan backbone and galactose and arabinose side-chains^{2,4}.

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ResistAid™ Health Benefits

The immune system is a highly complex and interrelated system that has two pathways to address foreign substances. The innate arm of the immune system is non-specific and targets anything that is viewed as foreign to the body whereas the adaptive system targets specific foreign substances. Both immune arms work together to protect the body against foreign substances.

Clinical study results indicate that larch arabinogalactan has the ability to modulate and support the two arms of the immune system in a positive manner through direct and indirect pathways within the gastrointestinal tract, so that the components of the different arms are optimized and appropriately respond when challenged by a foreign substance. The mechanisms of this effect have been investigated and seem to include not only the indirect effects of lactic acid-producing bacteria and bacterial constituents on immune cells, the production of short chain fatty acids (SCFAs) and binding to SCFA receptors on leucocytes, but also direct effects on components of the immune system^{5,6}.

Specifically, the activity of natural killer cells^{7,8,9}, cytokines^{4,8,9} and macrophages^{10,11} may be supported by larch arabinogalactan supplementation¹². In addition, ResistAid™ has antioxidant capacity which can be related to its content of polyphenolic compounds¹³.

Interestingly, several immune “enhancer” herbs contain arabinogalactan, such as *Echinacea purpurea*, *Baptisia tinctoria* or *Thuja occidentalis* and researchers speculate that this is one of the main immune-activating principles in these herbs^{11,14,15}.

« ResistAid™ is formulated to deliver triple action immune support year round »

Natural Immune Function Support

ResistAid™ supports natural immune function by increasing beneficial immune cell populations and/or increasing antibody production based on the immune stressor. ResistAid™ has the ability to support and strengthen the appropriate immune response based on the immune stressor.

ResistAid™ can reduce the incidence of upper respiratory infections

In a multi-center, placebo-controlled, double-blind, randomized clinical trial, researchers measured the effect of supplementation with ResistAid™ on naturally acquired common cold episodes and its effect on cold symptoms was compared to placebo. In the study, 199 healthy adults aged 18-70 with a self-reported rate of cold incidences of at least three in the prior six months were divided into two groups, taking either a daily larch arabinogalactan supplement of 4.5 grams or a placebo for 12 weeks. The participants documented each common cold episode in a diary and rated 10 predefined infection symptoms on a four-point rating scale during infection period, resulting in an infection score. In addition to three prescheduled study visits, each common cold episode was confirmed by medical doctors.

Supplementation with ResistAid™ was associated with a statistically significant reduction (-23%) of the number of cold episodes in comparison with placebo (Figure 1). In addition, the percentage of study days that participants did not suffer from any cold symptoms was significantly higher in the group taking larch arabinogalactan (91.2%) compared to the placebo group (88.5%)¹⁶.

As noted in the study, the susceptibility for common colds is often related to a weak immune status or a lack of strong immune defense. Thus, common cold was used as a model system to determine the effect of larch arabinogalactan on the human system against invading pathogens.

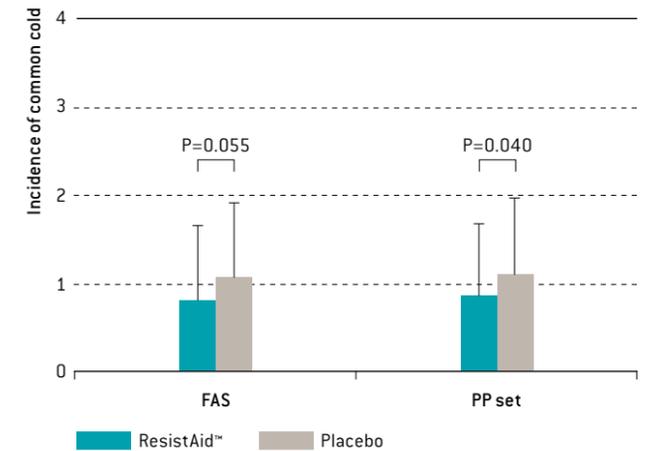


Figure 1 Incidence of common cold infections following 12 week ResistAid™ or placebo supplementation according to the Full Analysis Set (FAS) or the Per Protocol (PP) population. Values are mean ± SD.]

ResistAid™ found to support Adaptive Immune Responses

Research shows that the immune benefits of ResistAid™ additionally include the adaptive immune response, a response to specific antigens. The study was designed to test the hypothesis that ingestion of ResistAid™ would selectively enhance the antibody response to a vaccine in healthy adults.¹⁷ Vaccination studies of this type serve as a model to study the effect of nutraceutical supplementation on the overall immune function. The group that ingested ResistAid™ demonstrated a higher IgG Ab (immunoglobulin G antibody) response to the vaccine than the placebo group in two Ab subtypes during the 10 weeks following vaccination. The study further showed that ResistAid™ may have an immunomodulatory effect, meaning it supports the appropriate response to an antigen without indiscriminately enhancing other arms of the immune system that would not be expected to respond.

Natural Antioxidant Properties

Dietary antioxidants, including polyphenolic compounds, are regarded as effective nutrients in the prevention of health concerns related to oxidative stress¹⁸. Phenolics or polyphenolics are responsible for most of the antioxidant capacity in fruits, vegetables and most botanical antioxidant supplements. It is recognized that polyphenolic flavonoids are able to scavenge different reactive oxygen radicals, such as hydroxyl and superoxide radicals¹⁹. The polyphenolic flavonoids present in ResistAid™ include taxifolin and quercetin, which have been shown to display a wide range of biochemical properties, including antioxidant and chemoprotective effects¹⁹⁻²¹.



Additionally, as a ResistAid™ Customer You Can Expect ...

Regulatory Support

Our regulatory experts collaborate with authorities and organizations globally to work towards a regulatory situation that is in favor of ResistAid™ products. We have years of experience with regulatory dossiers and a track record of successful regulatory initiatives.

Formulation Support

ResistAid™ has a number of technical properties which make it easy to incorporate into dietary supplements and functional foods in standalone form or combined with other products to increase functionality.

High Solubility in Water

As ResistAid™ has a highly branched structure it is freely soluble, dissolving completely in hot or cold water.

Stable to Temperature and Low pH Value

ResistAid™ is stable at a wide range of temperatures and pH, which provides for use in various applications. In beverages it keeps its functionality and neither degrades nor hydrolyzes.

Ask us how ResistAid™ can be incorporated into your application.

Scientific Support

Lonza works in collaboration with universities and research centers around the world to strengthen the scientific backing of ResistAid™. We maintain a database of published literature which is used by our technical experts to provide tailor-made, well-researched answers on technical questions.

ResistAid™ Offers

- Proprietary, natural immune support from larch trees
- Year round, triple action immune support (direct, indirect and antioxidant capacity)
- Ability to modulate and support appropriate immune response
- Soluble dietary fiber

« ResistAid™ can be easily used in dietary supplements »



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