

Gut Health

We are excited to introduce you benefits of Belinal® Silver Fir Branch Extract for gut health. This unique extract, derived from the pristine mountain EU, is rich in polyphenols and polysaccharides, offering a powerful natural solution for enhancing digestive wellness in your formula.

Belinal® – Mechanisms of Action

Belinal® is renowned for its high concentration of polyphenols – including procyanidins, phenolic acids, and lignans, as well as beneficial polysaccharides. These compounds work synergistically to support gut health through various mechanisms:

- 1. Microbiota Modulation** Polyphenols, including **secoisolariciresinol, resinol, and matairesinol** interact with gut microbiota, promoting the growth of beneficial bacteria such as Lactobacillus and Bifidobacterium, while inhibiting pathogenic strains. Their metabolism by gut bacteria leads to the formation of bioactive metabolites, which enhance gut barrier function and immune responses.
- 2. Prebiotic activity** Polysaccharides in Belinal® act as prebiotics, providing nourishment for beneficial gut bacteria. This promotes a balanced gut microbiome, which is crucial for optimal digestion and immune function.
- 3. Antioxidant and Anti-inflammatory Effects** Polyphenols scavenge reactive oxygen species, reducing oxidative stress and inflammation in the gut. By modulating inflammatory pathways, they help maintain intestinal integrity and prevent disorders like irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD).
- 4. Regulation of Gut Barrier Function** Polyphenols strengthen tight junction proteins, preventing intestinal permeability and “leaky gut” syndrome. This mechanism is crucial for maintaining a healthy gut lining and preventing systemic inflammation.

Suggested dose of Belinal® in your formula

90 mg

Daily

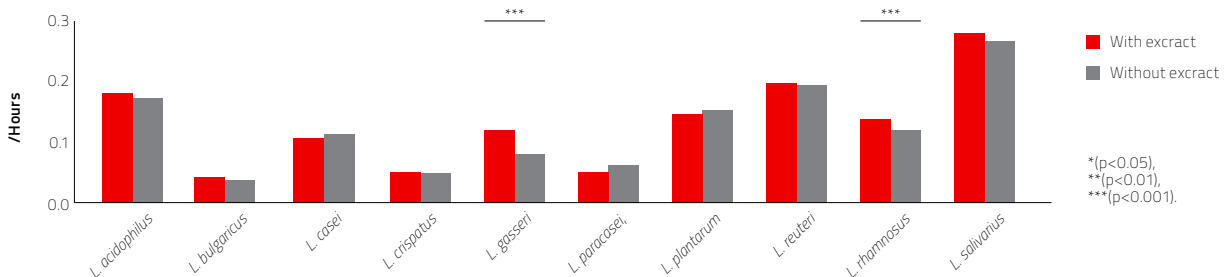


Clinical evidence:

We demonstrated that Belinal® extract is compatible with all tested bacterial strains and promotes their growth. Furthermore, the extract acted as a prebiotic for specific bacteria, including *L. paracasei*, *L. acidophilus*, *L. rhamnosus*, *L. gasseri*, *L. crispatus*, and *L. bulgaricus*, suggesting that its compounds can stimulate their proliferation.

In this study, we concluded that the silver fir branch extract Belinal® exhibits bacterial compatibility and displays prebiotic properties. These findings suggest that the combined use of Lactobacillus probiotics with Belinal® may have a positive impact on gut health.

Growth rate of different Lactobacillus species with and without Belinal® silver fir branch extract.



USP Unique Selling Proposition – Advantages and Features:

- Innovative Polyphenolic Solution for Enhanced Formulations
- Utilizing a clean, water-based extraction process. Our polyphenols are sourced from pristine EU mountain forests, guaranteeing purity, sustainability, and full traceability.
- Offering a unique polyphenolic profile, this formulation provides a first-to-market advantage, distinguishing it from competitors while enhancing product value and consumer trust.
- The strategic composition of polyphenols and polysaccharides improves formulation stability, ensuring product integrity and effectiveness throughout its 5-year shelf.

References:

1. Stojanov S, Ravnikar M, Berlec A, Kreft S. **Interaction between silver fir (*Abies alba*) wood water extract Belinal® and lactobacilli.** *Pharmazie* 76(2021)
2. Daria Ciupei, Alexandru Colișar, Loredana Leopold, Andreea Stănilă, Zorița M. Diaconeasa; **Polyphenols: From Classification to Therapeutic Potential and Bioavailability;** *Foods* 2024, 13(24), 4131;
3. Simone Baldi, Marta Tristán Asensi, Marco Pallecchi, Francesco Sofi, Gianluca Bartolucci, Amedeo Amede. **Interplay between Lignans and Gut Microbiota: Nutritional, Functional and Methodological Aspects.** *Molecules* 2023, 28(1), 343