

**Belinal®**

Silver fir branch extract

# Weight Management

Weight management is a complex process influenced by multiple psychological and behavioral factors, achieved through balanced nutrition and active lifestyle choices.

With Belinal® Silver Fir Branch extract, we provide science-backed expertise and innovation to help you develop formulations that stand out and boost your sales.

## **Belinal® – Weight Management Mechanisms of Action**

1. Belinal® is a carbohydrate blocker that inhibits the enzymes alpha-amylase and alpha-glucosidase. **It reduces the glycemic index of starchy meals by 35%.**
2. Belinal® acts as an appetite regulator: Certain polysaccharides in Belinal® function as prebiotics, promoting the growth of beneficial gut bacteria. These bacteria produce short-chain fatty acids, which enhance satiety by stimulating the release of glucagon-like peptide-1 (GLP-1).

## **Suggested dose of Belinal® in your formula**

100 mg

Before a meal

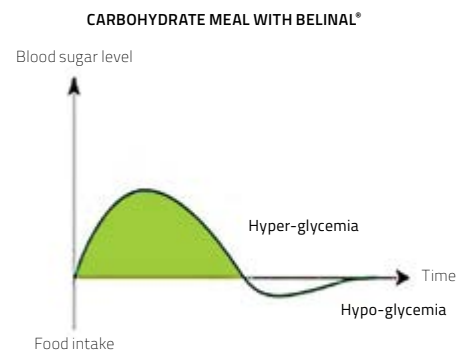
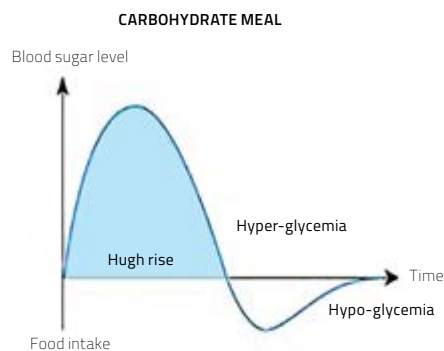
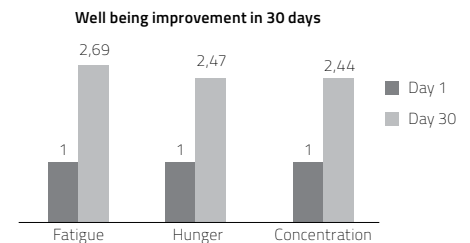
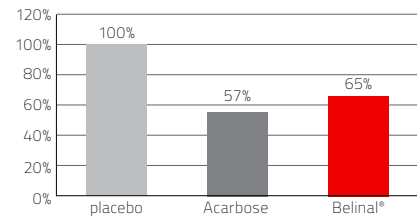


## Clinical evidence:

1. A double-blind, randomized, placebo-controlled clinical study with 200 mg of Belinal® in 31 healthy volunteers demonstrated a 35% reduction in glycemic index compared to the placebo.
2. A clinical study on Type II diabetes involving 32 volunteers using the product Belinal® gluco (containing 75 mg of Belinal® and 32.5 µg of chromium picolinate), along with an antidiabetic prescription drug, **demonstrated a 16% reduction in glucose levels over 30 days**. Additionally, 75% of the volunteers reported a significant reduction in hunger.
3. **Animal study: 12% weight reduction observed over 8 weeks.**

- **Group A:** Unhealthy diet (50 g per day for 8 weeks) – the average weight of the animals was 1,049 g ( $p \leq 0.05$ ).

- **Group B:** Unhealthy diet (50 g per day) + Belinal® for 8 weeks – the animals maintained their initial weight, averaging 923 g ( $p \leq 0.05$ ).



## USP Unique Selling Proposition

- Components of Belinal® penetrate the cell membrane and exhibit stronger antioxidant activity compared to well-known standards.
- Belinal® is one of the most bioactive full-spectrum ingredients, containing flavonoids, phenolic acids, lignans, and polysaccharides.
- Small single doses of 75–150 mg.
- Offers an opportunity for exclusivity and a first-to-market advantage. Sourced in the EU from pristine mountain forests.

## References:

- Debeljak J, Ferik P, Čokolič M, Zavratinik A, Tavčar Benkovič E, Kreft S, Strukelj B. **Randomised, double blind, cross-over, placebo and active controlled human pharmacodynamic study on the influence of silver fir wood extract (Belinal) on post-prandial glycemic response.** Pharmazie. 2016; 71(10).
- Drevenšek G, Lunder M, Tavčar Benkovič E, Mikelj A, Štrukelj B, Kreft S. **Silver fir (*Abies alba*) trunk extract protects Guinea pig arteries from impaired functional responses and morphology due to an atherogenic diet.** Phytomedicine. 2015; 22(9).
- Kreft S. **Phytochemical, pharmacological and clinical studies of an extract prepared from silver fir branches Belinal® (*Abies alba*).** Biologia Serbica, 2021, 43(1): 57-62.