



Innovative and Healthy Collagen Beverages with Naticol®

Beverages with health benefits beyond basic nutrition are a subject of high interest and high demand. Consumers are more and more conscious about the importance to drink healthily and the functional beverage market is going to be the new trend. Nutrition, convenience, indulgence and portability are the new key terms and here is a large opportunity to provide healthy and ready-to-drink beverages.

In this context, Weishardt made the strategic choice to extend its expertise in collagen peptides to the following category of beverages: juices, waters, infusions, coffee, milk and non-alcoholic/low-alcoholic beer.

The prototypes developed by Weishardt focus on well-being and skin beauty regeneration from within. These product formulations answer to consumer needs for a pleasant and natural beverage

while providing all the benefits of Naticol®, specific fish collagen peptides.

Naticol® is mainly type I fish collagen peptides, including dipeptides and tripeptides. It is produced from high quality raw materials (fish skins) and by specific enzymatic hydrolysis, under ISO 9001 and FSC 22000 standards. Weishardt's R&D department carefully selects the raw material and enzyme mixture that generate specific collagen peptides with targeted biological activities. The nature of the matrix is due to the raw material source, the choice of protease and extent of hydrolysis which are the three main factors in the production of specific fish collagen peptides with targeted biological activities.

Naticol® has a very high purity degree of collagen protein (> 99,8 %, on a dry matter basis). It is water soluble, and

is highly bioavailable and bioactive. It is free from E (clean label), GMO, fat, carbohydrate, preservative and purine. It is also Halal and Kosher certified.

Naticol® represents a good source of glycine, hydroxyproline, proline and arginine. These amino acids are involved in body's cell regenerating, energy supply and metabolism. In particular, arginine and glycine, present at high levels in Naticol®, may play with phosphoric acid a role in muscular contractions, provide creatine and release growth hormones from the pituitary gland which may support performance gains.

Furthermore, the literature reports benefits of fish collagen peptides to reduce pain in osteoarthritis. Due to the demand on the collagen-containing structures and the slower joint ability to repair, it is relevant to optimize the conditions that contribute to the

maintenance of joint mobility. Naticol®, specific fish collagen peptides, has demonstrated its benefits in the musculoskeletal area. As a protein, it may contribute to maintain and develop the muscular mass, maintain bone mass if 12% of the energy is brought by proteins (EFSA claims).

Finally, fish collagen peptides are also indicated to stimulate collagen synthesis, repress skin damage caused by UVA due to antioxidant/ anti-inflammatory activities. The literature refers to effects of oral intake of fish collagen peptides to help in skin smoothness, hydration, elasticity maintenance and to reduce skin wrinkle appearance.

Naticol®'s efficacy is proven by preclinical and clinical studies conducted in these different areas: skin beauty (3 clinical studies), musculoskeletal/ joint condition (1 clinical study), weight control. Due to its high bioavailability and bioactivity, Naticol® is an ingredient of choice for drink formulations targeting overall well being and anti-aging.

Collagen drink

Naticol® presents all required properties to be the perfect health ingredient for new, innovative, functional dry instant powder drinks and ready-to- drink (RTD) beverages. Adding Naticol® to your formulations is an effective way to achieve an interesting positioning in a crowded marketplace and to bring added value to products for a better differentiation.

Naticol® demonstrates an excellent solubility into cold water and other aqueous solutions. After dissolution into water, Naticol® gives a transparent solution (no gel, very low viscosity). Finally, Naticol® is physico-chemically stable to heat treatments such as pasteurization.

Weishardt can support your product development and all formulations including Naticol®. Targeting a wide range of beverages (with natural colouring agents or not, natural flavours or not, low sugar or sugar free...), our R&D experts are present to help selecting carefully natural flavours,



Beverage expertise

PROCESS

Depending on needs

INGREDIENT SOURCING

Natural aromas both heat resistant and able to mask potential product off-notes.
Natural and STABLE colours with long shelf lives.

FORMULATION

Tasty beverage with very low pH (3,6)
- Flavour
- Acidity
- Sweetness
=> balance

ANALYSIS & CORRECTION OF POTENTIAL INTERACTIONS

- Compatible with other active ingredients

PACKAGING

Food grade and resistance to high temperatures

SHELF LIFE: 12 MONTHS

= Stability of
- pH
- flavour
- colour
- clarity
- microbiology...



Comparing beer without and with Naticol (2%), no significant differences were recorded between the two products in terms of organoleptical (taste, bitterness, ...) and physio-chemical (pH, color, ...) properties. These parameters were evaluated by IFBM (French Institute of Brewery and Malterie).

Collagen hot beverage

The daily consumption of hot beverages (coffee, hot chocolate, infusion, ...) is a common and comforting moment for most people. Including Naticol to these pleasant beverages, your body can benefit from its related health benefits. Sensory/organoleptical assays showed very good results. Naticol is also physico-chemically stable at these hot temperatures.

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