

Satiety and weight management

NIZO is your partner to develop and test foods that combine liking with limitation of intake due to enhanced satiety signals. Thanks to in vivo models, NIZO can help proving the effect of a specific satiating ingredient and understand its mechanism of action.



NIZO offers the industry unique expertise combining flavour knowledge, ingredient knowledge and texture design for the development of new (multistage/ long lasting) satiating concepts. Satiating ingredients can be incorporated into new product formulations on laboratory scale and pilot plant scale (suitable for food grade clinical trials). Finally, the expertise of NIZO in the field of physiology and nutrition contributes to the implementation of animal and human studies leading to the validation of health claims.

Creating new concepts

You can expect NIZO to help you creating new concepts by using its expertise in ingredient technology and fermentation (e.g. satiating fermented product, screening on peptides, long chewable structures, gelling in the stomach, process optimization for optimum satiety).

Formulation of new products

Do you wish to reformulate your product using a healthier recipe while keeping the hedonic cues? Our experts are used to combine the different disciplines needed to come to such a solution.

In addition the food grade pilot plant and industrial kitchen allows NIZO to validate results and produce test products for clinical trials.

Validation of health claims with in vivo models

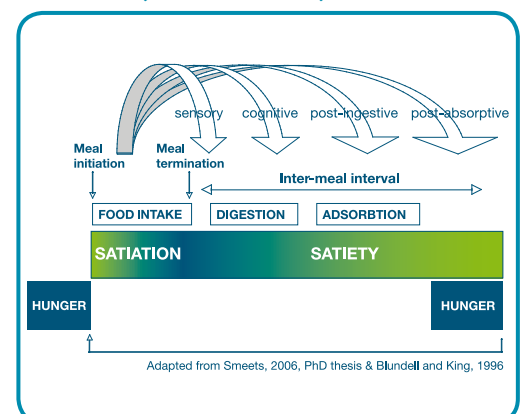
Once a product with satiety enhancing characteristics is developed, NIZO can test your product or ingredient in vivo in an animal model (to understand the mechanism of action of the ingredient/product) or in a human trial to validate health claims.



Your benefits

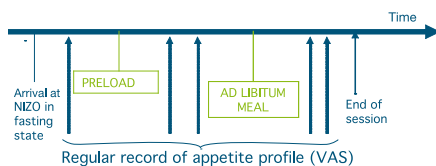
- Development of concept foods that combine liking with limitation of intake due to enhanced satiety signals;
- Proof of efficacy of a specific satiating ingredient or product;
- Mechanistic understanding of the mode of action of a satiating component;
- Support of health claims using in vitro, in vivo and human models.

Food intake cycle and the satiety cascade





NIZO can set-up satiety trials using a double blind placebo-controlled randomized cross over full factorial design. The satiety product is then consumed as preload and the appetite profile of the subjects recorded on visual analogue scales (VAS). The energy intake can be measured in an ad libitum meal. Optionally, measurement of relevant biomarkers can be carried out.



Flavor induced satiety

NIZO can identify olfactory triggers which regulate food intake behaviour using the olfactometer, a unique tool which mimics the release of flavour during food consumption. This approach allows to develop foods that combine liking with limitation of intake due to enhanced satiation signals and to design new food products or beverages with a well defined flavour release profile inducing earlier meal termination.

NIZO is a partner of the EU programme DiOGenes (www.diogenes-eu.org).



Formulating high protein foods

NIZO's expertise in the field of texturizing of protein-based food is directly applied to prepare prototypes of satiating products with:

- Equal composition
 - Proteins
 - Carbohydrates
 - Fat
- Different textures
 - Liquid
 - Semi-liquid
 - Semi-solid
- Equal liking

Or:

- Different protein sources
- Different protein concentrations
 - High
 - Low
- Equal carbohydrate
- Equal energy
- Equal thickness
- Equal taste

About NIZO food research

NIZO food research is an independent and one of the most advanced research centres in Europe. We provide industry with solutions they require by developing and applying technologies for innovations in the areas of flavour, texture, health, food safety and process optimisation. The food-grade industrial pilot plant is used for development and testing at industrial level and is available for test productions. The NIZO application centre provides industry with facilities for product development & product oriented research.

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