

Palatinose™

The next generation sugar



palatinose™

beneo 
connecting nutrition and health

Nature's premium carbohydrate



A nutritious carbohydrate

- Providing 4 kcal/g
- Fully available and well tolerated
- Slow glucose release = slow calories
- With a GI of 32 only low impact on blood sugar and insulin levels
- Balanced and sustained energy supply
- Enhanced fat burning
- Kind to teeth

Carbohydrates are the stored energy of the sun in plants where they occur in the form of sugars and starches. Being broken down into glucose, nature's primary source of energy, they have nutritional importance as fuel for the human body.

But carbohydrates are not all the same. Palatinose™, a new carbohydrate, provides the body with balanced and sustained energy. Completely yet slowly digested, it delivers the full energy of available carbohydrates over a longer period of time.

Palatinose™ facts:

- Occurs naturally in honey
- Derived from sugar beet
- Tastes like sugar
- Is labelled as isomaltulose on products
- Was discovered in the German region Palatinate and is now marketed under the brand name Palatinose™
- Is composed of the sugar molecules glucose and fructose
- Has a more stable linkage providing unique physiological properties

1 Palatinose™ – Smart calories for balanced and longer energy

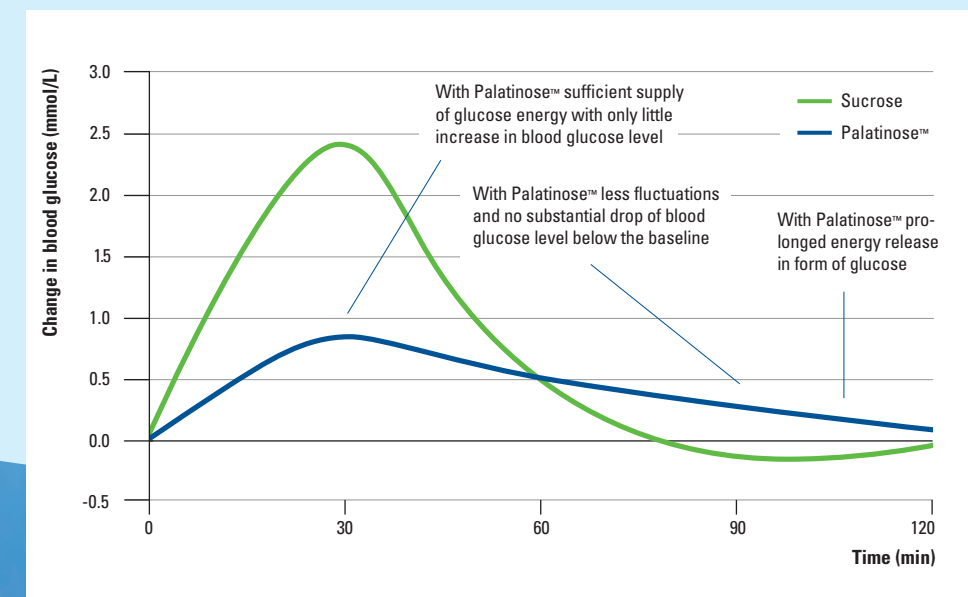
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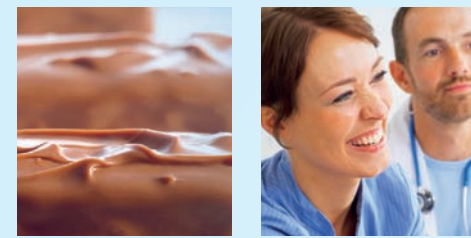
Palatinose™ supplies the body with the same 4 kcal/g energy as sugar. It is fully digested but four to five times more slowly than sucrose, which is reflected in a more constant supply of blood sugar.

Nutritional benefits:

- Slower and lower rise of blood sugar level
- No sugar boost and crash effect
- Low glycemic and insulinemic
- Sustained glucose supply leading to a constant and extended stream of energy for muscles and brain over a longer period of time
- Enhanced use of body fat saves carbohydrate reserves and thus delays exhaustion
- Benefits for weight management and long-term metabolic control



The blood glucose response to Palatinose™ in healthy adults. (50 g oral carbohydrate in solution)



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2 Palatinose™ – Good for dental health

Fermentable carbohydrates like sugars and starches put teeth at risk by being cariogenic. Up to now, the only toothfriendly alternatives have been sugar replacers and intense sweeteners. With Palatinose™, a new alternative for a unique product position available:

A sugar with toothfriendly properties.

Innovations in chocolate products, chewy and gummy candies, ice tea and other beverages, etc. offer a unique potential for differentiation, functionality and great taste. Of course this also applies to chewing gum and coated confectionery.



3 Who benefits from Palatinose™?

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- Everybody following a healthy diet
 - **low glycemic**
- People with a modern working lifestyle in constant demand
 - **balanced and sustained energy for body and brain**
- Physically active and sports people
 - **higher fat oxidation**
- People looking for healthier choices
 - **weight management and metabolic control**

Palatinose™ can be used as functional carbohydrate in essentially all types of food and drinks. Its natural sweet taste and technological properties allow the development of great tasting and healthy products such as:

- Baby food
- Beverages
- Cereals & bakery
- Chocolate & bars
- Clinical nutrition
- Confectionery
- Dairy products
- Meal replacement
- Sports nutrition
- Toothfriendly products



4 Palatinose™ – Sweet functionality

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The motivation to develop products with Palatinose™ comes on one hand from the fact that this functional ingredient provides substantiated health benefits with great potential for innovative product positioning. On the other hand it provides technological advantages that make Palatinose™ a unique carbohydrate for the development of great tasting and healthy products.

- Sucrose-like natural sweetness profile
- Good solubility
- Very high stability under acidic conditions
- Ideal for iso-, hyper or even hypotonic beverage concepts as it helps to maintain the concentration of minerals (osmolality)
- High stability against fermentation by most yeasts and bacteria
- Optimizes the stability of products due to antioxidative properties
- Very low hygroscopicity
- Suitable for a wide range of food and beverage applications



Palatinose™ is produced in Germany by BENE0 – a member of the Südzucker Group, Europe's largest sugar producer. BENE0 offers further functional ingredients derived from chicory root, sugar beet and rice to manufacturers around the world.

Palatinose™ can be marketed in the United States, in the European Union, in Japan and elsewhere. We will be happy to provide details on the regulatory situation in specific countries.

Should you have any questions regarding Palatinose™, feel free to contact our offices in

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