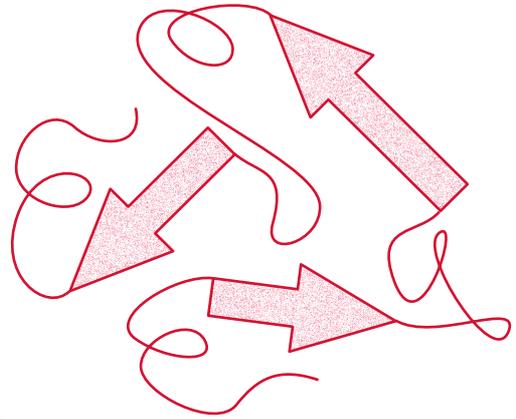


B2B product portfolio

Healthier and more efficient consumer products



From foods through to care products, consumers are increasingly selecting products based on natural ingredients. This has led manufacturers to adopt new approaches when utilizing natural basic materials and biotechnology production processes.

BRAIN is deploying its specialty enzymes, in particular, in order to respond to the requirements of the high-growth markets for biobased products and processes. These specialty enzymes generate distinctive aromas, accelerate biochemical conversion processes and extract every last bit of goodness from fruit used to produce juices, oils and wine.



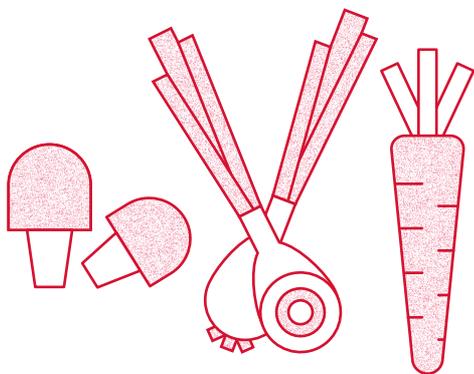
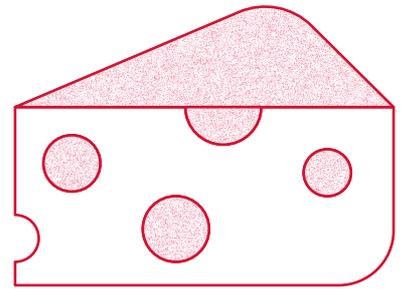
Discovering and developing enzymes

Specialty enzymes are versatile biocatalysts that accelerate biochemical conversion processes and thereby make it possible to sustainably build or break down molecules. In close cooperation with its subsidiaries, **BRAIN AG** develops **tailor-made enzymes** for consumer goods manufacturers. In this context, BRAIN develops novel products and solutions thanks to its concentrated scientific expertise and the wealth of biological resources embodied in its proprietary BioArchive – in combination with BRAIN's unique portfolio of technologies.

Selected examples from the BRAIN Group's B2B product portfolio:

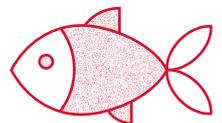
Taste development and debittering

Market leadership can depend crucially on offering high-quality foodstuffs that have unmistakable aromas. The use of enzymes in order to release natural aromas forms one of the core competencies of BRAIN subsidiary **Biocatalysts**. Enzymes from the **Flavorpro™**, **Lipomod™** and **Promod™** product groups, for example, are used to debitter foodstuffs or to foster the release of natural ripening aromas, e.g. in cheese production.



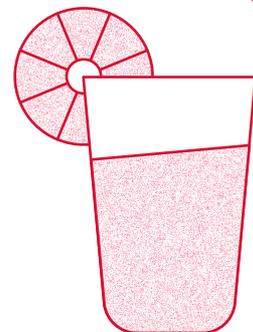
Protein enhancement

From the consumer-specific processing of plant proteins and improving how they are handled technically thanks to enzyme hydrolysis, providing proteins for a healthy lifestyle represents a highly topical megatrend. BRAIN subsidiary **Biocatalysts** has a **large range of enzymes** that can help improve the efficiency of plant-based and animal proteins. Most of these enzymes are of microbial origin and consequently meet requirements for kosher, halal and vegetarian foods.



Boosting and improving juice yields

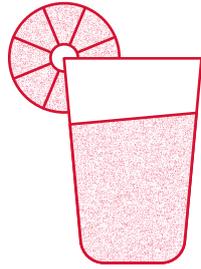
Enzymes can play a key role in producing high-quality fruit juices and concentrates, and enhance juice yield, clarity and stability. BRAIN subsidiaries **Biocatalysts** and **WeissBioTech**, for example, offer a comprehensive range of enzymes in their product groups **Depol™** and **NATUZYM®** to support fruit juice production. Further enzyme products also enable better olive oil production or winemaking.



More efficient manufacturing processes

Starch, as a plant-based raw material, is frequently used in biotechnological processes to produce energy-rich intermediate compounds or foods and beverages by means of fermentation. Since they are derived from renewable sources, they should be used as efficiently as possible. When it comes to the enzymes produced by BRAIN subsidiary **WeissBioTech**, less really is more. The enzymes of the **Deltazym®** product group, for instance, offer greater functionality than competitor products. This can make the manufacturing process more efficient and shorter for users, and boost yields.

Facts & figures



68.4%

Product sales account for 68.4% of BRAIN Group sales revenues.

>1000

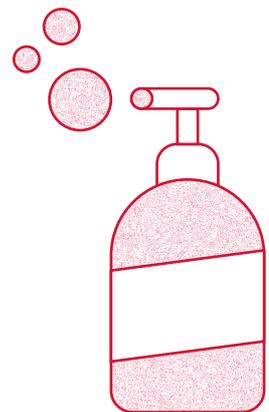
The BRAIN Group offers over 1000 **special B2B products** in its product portfolio.

>250

More than 250 **Enzymes** are generally used in industrial applications.¹

60%

60% of consumers worldwide **prefer biobased and more sustainable products.**²



www.brain-biotech.com/enzymes-compounds-microorganisms

¹ German Federal Ministry of Education and Research (BMBF): "Weiße Biotechnologie – Chancen für eine biobasierte Wirtschaft", June 2015

² Biospringer: „Naturalness: A Rising Trend Worldwide“ – biospringer.com/wp-content/uploads/2018/10/biospringer_infog_naturalness-trend_2018-10-08.pdf