



BIOCATALYSTS
A BRAIN Group company

Product Brochure





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Group
company

Science to Application

Biocatalysts Ltd is an industry expert in the discovery, development, and manufacture of speciality enzymes. We're not just experts in enzymes – it's our passion, and we've been perfecting it for over four decades. Our team of specialists boast an extensive knowledge of enzymes, from their application, development, cloning and production to process optimisation and the creation of new products.

With us, you have a choice of a wide range of ready to go solutions or the ability to have a novel enzyme manufactured for your specific requirements. Our modular approach allows you to handpick the perfect enzymes from our portfolio. With our technical expertise we customise products to seamlessly integrate into your processes. If the enzyme you need doesn't exist yet, we'll work together to discover or develop a novel enzyme specifically for your unique requirements.

Our four sites house specialist capabilities from a state-of-the-art fermentation facility to an expert application & bakery excellence centre to a highly advanced refrigerated liquid blending site.

Biocatalysts was set up with customer service at its heart. We believe in creating what our customers want, not just what production controls. The joint offering of custom tailored or novel enzyme development and exceptional customer service are the differentiators giving Biocatalysts considerable competitive advantage.

Coupled with the industrial biotechnology prowess of the BRAIN Group we usher in a #biobasedfuture. Together we've assembled a state-of-the-art biotechnology toolkit, combining tools and flexibility to craft solutions that cater precisely to your needs.

We're not just delivering enzymes; we're delivering solutions that enable you to thrive in your industry.

Elevating Food Industries



Dairy & Protein



Flavours & Alternative Sweeteners



Beverages & Grain Processing



Baking

Delivering taste, texture and functionality is what we are known for by food technologists in multiple sectors. We provide specialist solutions for Dairy, Baking, Brewing, Protein modification, Flavour generation and Fruit & Vegetable processing

Enzyme Discovery, Development & Manufacture

Accessing new enzymes for potential users by driving down costs and timescales.

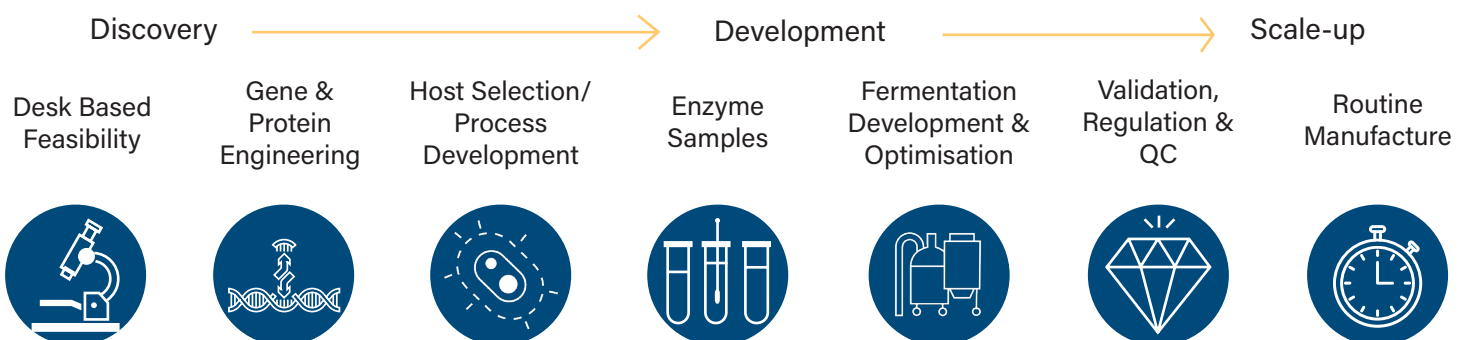
Prohibitively expensive for most, prohibitively slow for all... previously the cost of customised enzymes was beyond most companies apart from the large multi-nationals. But, 10 years ago, we decided to take all our enzyme development and manufacturing experience and focus on driving down the cost of novel enzymes, using our wide range of capabilities, both new and existing.

Over the past 40 years, Biocatalysts has developed the tools and expertise to rapidly and cost effectively develop novel enzymes across a wide range of industries including

chemical, food, medical, healthcare, flavour and fragrance.

We can provide a small sample in a few weeks that is suitable for proof of concept testing and have the ability to scale up to routine large scale manufacture in less than 12 months.

OUR OBJECTIVE IS CLEAR: To provide our customers with the fastest, most cost effective solution to their enzyme needs, whether it is a standard product or customised enzyme.



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Dairy & Protein

Dairy and protein play a pivotal role in the food industry, offering a wide array of functional and nutritional benefits catering to the diverse needs of consumers. These ingredients can be enhanced through various processes, including enzyme modification to provide additional functionality, improve processability, generate unique flavour profiles and boost protein digestibility.



Unlock Innovation in
Dairy & Protein



Improving protein functionality

Protein hydrolysis is conducted in many industries for a range of applications. Whether it is to produce ingredients for sports nutrition, infants or the ageing population, protein fortification is here to stay. PROMOD® products can be applied to modify different protein sources to provide superior functionality to plant and dairy proteins, produce low molecular weight collagen peptides and improve the solubilisation of protein wastes.



Modifying lipids for enhancing flavour and emulsification

Discover the unique flavour profiles generated by modifying dairy fat lipids to produce Enzyme Modified Cheese (EMC). These flavours are the key component of savoury snacks, cheese dips and processed cheese. LIPOMOD® products can be used to make flavours from mild cheddar to blue with a wide range of notes adding depth and authenticity to the end product. Our customised LIPOMOD® enzyme solutions efficiently modify fats and oils in nutritional and functional food ingredients aiding the production of lyso-lecithin emulsifiers, improving the functionality of plant-based fats and hydrolysis of vegetable lecithin.



Customised enzymes & preservatives for dairy processing

For various dairy processing applications, MILK-O® offers diverse enzymatic and non-enzymatic solutions for lactose hydrolysis, accelerated cheese coagulation and food preservation. These ingredients can be formulated to address your specific dosage needs.



Tailored taste modifications

Enzymatic modification of different substrates can improve functionality but can also create desirable flavour enhancements to a range of food ingredients. FLAVORPRO® increases the digestibility of plant and animal-derived protein with low bitterness, reduces allergenicity with clean tasting peptides and generates a savoury, umami flavour.



Flavours & Alternative Sweeteners

Enzymes are used for many niche applications from the extraction of unique flavours to the synthesis of alternative sweeteners. Our enzyme portfolio, and development and manufacture capabilities provide solutions enabling your food ingredients to align to the latest industry trends and yield differentiation in a competitive landscape.



Natural extracts and flavour generation

Unlock the value of plants using DEPOL®. Enzyme-assisted extraction using our range of customised carbohydrases effectively breaks down the carbohydrates and starches within plant cell walls to release valuable colour, flavour and aroma compounds.

Uniquely developed solutions for sugar reduction

Ensuring the nutritional value of food ingredients is aligned specifically to your customers can require customisation and novel solutions. At Biocatalysts Ltd we have decades of experience working in close partnership with many companies to rapidly scale up enzymes to produce at commercial volumes or to discover and development a completely novel solution unique to your application and requirement.



Beverages & Grain Processing

We bring you an exceptional and adaptable building block system of enzyme formulations, crafted to elevate your beverage creations. Our NATUZYM®, DELTAZYM® and DELTABREW® enzymes coupled with our profound application expertise empower you to unlock the full potential of fruit & vegetable processing, winemaking and carbohydrate-based applications such as malts and beer or potable alcohol and bioethanol.



Unlock Innovation in
Beverages & Grain Processing



Finest Brewing & Malting Excellence

DELTABREW® is your comprehensive solution for brewing and malting success. Our range of highly efficient and cost-effective formulations is designed to optimise every stage of your brewing and malting journey. DELTABREW® empowers you across multiple critical facets, including malting, cereal cooking & mashing, fermentation, attenuation & filtration, beer maturation, and stabilisation. With our modular system, you have the freedom to fully customise and adapt your brewing process to cater to various raw materials and production methods.



Efficient Fruit & Vegetable Processing

Discover NATUZYM®, your dedicated solution for revolutionising fruit and vegetable processing. Whether you're handling apples, pears, a diverse array of berries, citrus fruits, stone fruits, or exotic tropical varieties, our specialised NATUZYM® enzyme formulations are your key to enhancing economic viability and processing efficiency. Even in vegetable processing, crops like sugar beets, carrots, and olives can experience significant yield improvements when you harness the tailored potential of NATUZYM® enzymes.



Perfection of Winemaking

Our specialised NATUZYM® Wine series is designed to yield higher-quality wines by facilitating the extraction of juice, sugars, colour, and aroma and simplifying the clearing process. Our enzymes are the key to unlocking the full potential of your grapes, ensuring that every drop is perfected to its fullest potential.



Precision Starch & Alcohol Processing

DELTAZYM® enzymes are your partners in starch degradation for improved starch separation, fermentation and distillation. Our tailored solutions streamline your process, ensuring efficient production of both food- and technical-grade alcohol. With flexible pH and temperature options, you gain enhanced control for better results.



Baking

Welcome to our world of baking enzymes and functional ingredients, where expertise meets innovation. With a complete portfolio designed for the milling and baking industry, we offer a spectrum of solutions, from enzymes to emulsifiers, tailored to meet your specific needs.

Our experience in handling various baked goods and intricate baking processes empowers us to seamlessly integrate small-scale bake lab tests into full-scale production. We take pride in our technical support, providing customised solutions that address both your unique customer requirements and the ever-evolving trends in the baking industry.



Unlock Innovation in
Baking

Specialised Enzyme Solutions for Bread and Fine Bakeries

Discover a world of possibilities for your bakery products with our advanced **BakemyL** enzymes and formulations. Our extensive portfolio covers all major enzyme groups, catered to bread and fine bakery ingredients formulators seeking concentrated enzymes for premium quality at cost-effective prices. We focus on optimising your products for exceptional visual appeal, volume, texture, and fresh keeping, while streamlining processes with enhanced dough handling and fermentation. We also address current industry trends, offering gluten and emulsifier alternatives or solutions for fibre enriched and whole meal applications.



Flour correction for Flour Millers and Pasta & Noodle Producers

Introducing **FlomoD** our cutting-edge solutions for the flour milling and pasta & noodle production industries: a comprehensive line of enzyme formulations designed to address the unique challenges faced by flour millers. We understand the critical importance of adapting to the ever-changing dynamics of wheat mixes and harvest variations throughout the year. Our enzymatic treatments provide tailored solutions, ensuring that your flour consistently meets quality specifications, optimising crucial characteristics like water absorption, rheological properties, and gluten development. We empower you to balance variations and reduce costs without compromising on the quality of your final product.



Sophisticated Improver Solutions for Industrial Bakeries

Presenting our innovative **PanTec** & **PasTec**, a full range of enzyme-based baking solutions tailored to the unique challenges faced by industrial bakeries. With our carefully formulated bread and pastry improvers, we're committed to help you overcome the multifaceted obstacles that define your industry. Whether it's the pursuit of consistent product quality, enhanced production efficiency, staying competitive in a dynamic market, addressing ingredient sourcing and cost concerns, or ensuring compliance with stringent food safety regulations – we've got you covered. Our technological expertise empowers you to meet these challenges head-on while staying attuned to evolving market trends. Whatever your baking application, from sandwich bread to pastries and gluten-free products, our solutions are designed to deliver unwavering quality and performance.



Alternative product capabilities

Dietetic and Diagnostic

Enzymes can be used in supplements to aid digestion or used as markers in the diagnosis of many diseases or disorders.

At Biocatalysts Ltd, we are aware that it is difficult for nutraceutical and contract manufacturing companies to compare enzyme activities due to the array of different activity units used within the industry. To ease this challenge we are providing our enzymes for dietary supplements with the internationally recognised Food Chemical Codex (FCC) units. Contact us for a full list of enzymes and their FCC specification.



Our Processes

Production of safe and compliant products is fundamental to our reputation and in the company's entire history there has never been a single major issue with product safety, a record that we are proud of, and intent on maintaining.

We hold the following Accreditations:

- ISO 9001 Quality Management
- ISO 14001 Environmental Management
- OHSAS 45001 Health & Safety Management
- FSSC22000 Food Safety Management



Need your enzyme to follow kosher or halal rules? This is no problem for Biocatalysts as our manufacturing facilities are kosher and halal certified.

We are a BRAIN Biotech Group Company

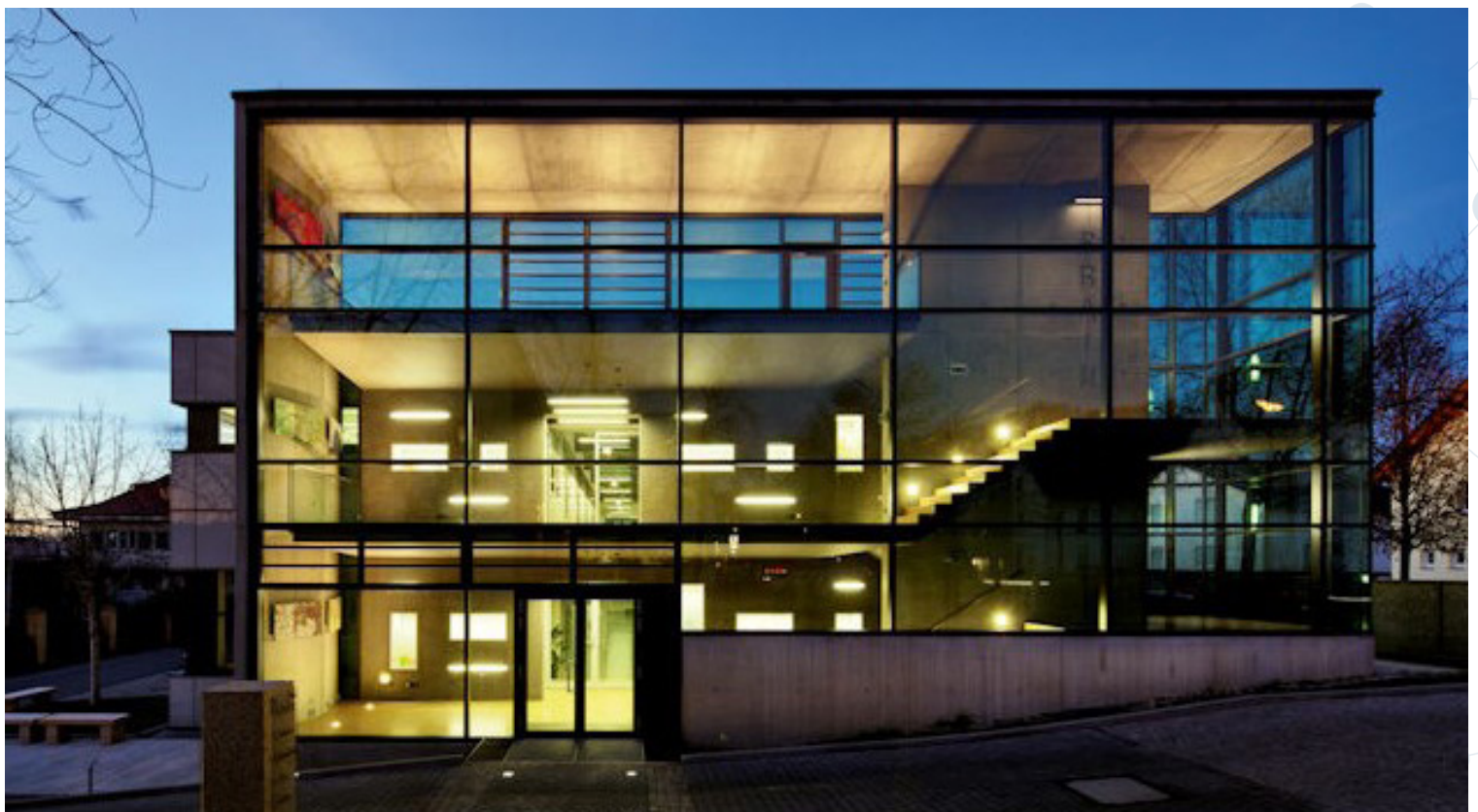
Established in 1983, Biocatalysts has been a member of the international BRAIN Group since 2018. BRAIN Biotech, a leading European industrial biotechnology specialist, is the parent company of the Group. In 2023, BRAIN Biotech gained full ownership of Biocatalysts.

Next to first-class research and development services for industry customers to create bio-based products and processes, the Group distributes speciality ingredients, like enzymes or bioactive natural products. Own fermentation and production facilities in Continental Europe, UK and the US, together with the associated biotechnological solution competency complete the value chain within the group.

All BRAIN Group companies act as independent entities in the market, yet interconnect to synergise in R&D and production. Biocatalysts and BRAIN Biotech work closely together for the joint development of customised enzyme discovery, development and scale-up processes.

Together with our partners in the BRAIN Group, we rely on biotechnology as a tool for a sustainable bio-economy and work towards the vision of creating a #BiobasedFuture.

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Unlock Innovation
Science to Application



Biocatalysts
Head Office



Biocatalysts
Baking Unit



Biocatalysts
Beverages Unit