

PRESS RELEASE

BRAIN research network receives BioChance PLUS funding from BMBF

Zwingenberg, July 2006 – Biotechnology-company BRAIN AG discloses the allocation of a research grant for a project planned with the university groups of Prof. Dr. Ulrich Schwaneberg, International University Bremen and Prof. Dr. Lutz Fischer, University Stuttgart-Hohenheim. The interdisciplinary team will work on the development of innovative “universal high-throughput screening systems for the identification and improvement of industrially relevant biocatalysts in metagenome and random-mutagenesis libraries”. The collaboration is projected for three years and is financially supported by the German Bundesministerium für Bildung und Forschung (BMBF) within its BioChance PLUS program.

Enzymes as biological catalysts play an important role in the refinement and improvement of natural raw materials as well as sustainable production processes within the sectors of fine chemistry, textile processing, cosmetics, food and health. In a recent McKinsey study published in 2003 it is estimated, that until 2010 30 to 60 per cent of all production processes for fine chemicals will comprise at least one biotechnological (enzymatic) step. In a study published by market research company Freedonia in 2005 the global enzyme market is expected to grow within the next 5 years by annually 6.5% up to 5.1

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billion US\$ with highest potential seen within the speciality enzyme sector.

Currently, the target industries only have access to a limited amount of relevant biocatalysts. Limitations are largely due to the inadequacy to cultivate potentially interesting microbial donor organisms (e.g. bacteria, fungi, algae).

„Addressing these limitations, some years ago we established a Metagenome[®]-technology suite at BRAIN which opens up the genetic resources of uncultivable micro-organisms and gives access for their industrial implementation“, explains Dr. Patrick Lorenz, Head of the Unit Enzyme & Bioconversion Technologies at BRAIN AG. „With this technology platform we have realised a powerful access to novel highly diverse enzyme activities and enable the identification of innovative biocatalysis solutions.“

Within this new research program metagenome and random mutagenesis libraries shall be screened using a novel ultra-HTS technology in order to accelerate the identification of highly relevant but underrepresented enzyme classes in a sufficient quantity and quality for a variety of industrial applications. The technology is based on micro-compartments in double emulsions which are screened using FACS-based („Fluorescence Activated Cell Sorter“) procedures.

With the three project partners, Prof. Dr. Ulrich Schwaneberg, Professor of Biochemical Engineering at the International University Bremen, Prof. Dr. Lutz Fischer, Professor at the Institute for Food Technology, University Stuttgart-Hohenheim and BRAIN as the industrial partner, the newly formed research team will bring together synergistic approaches like the highly innovative double emulsion technology, high throughput enzyme-screening and metagenomics to facilitate discovery, production and industrial application of technical enzymes.

439 words / 3178 characters

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About BRAIN AG:

BRAIN Biotechnology Research and Information Network AG is an innovative company focusing on the discovery and development of novel enzymes and bioactives. Its novel EvoSolution® technology platform combines the untapped biodiversity of microorganisms and plants with modern methods of molecular biology. The company located in Zwingenberg within the research and industrial region Rhine-Main-Neckar has at its disposal a comprehensive BioArchive with over 120 million genes of unique and non-cultivable microorganisms. Based on these resources BRAIN identifies novel technical enzymes for biotechnological production and synthesis processes (biotransformation) in the chemical and life science industries as well as new bioactive substances and lead candidates for the pharmaceutical and cosmetics market, and develops the basis for their large-scale industrial production. The company, which was founded in Darmstadt in 1993, currently employs a staff of 47.

Please find more information about BRAIN in the internet under:

www.brain-biotech.de

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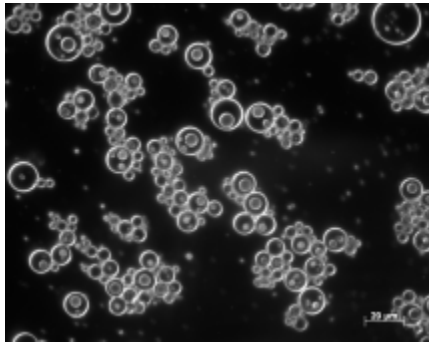
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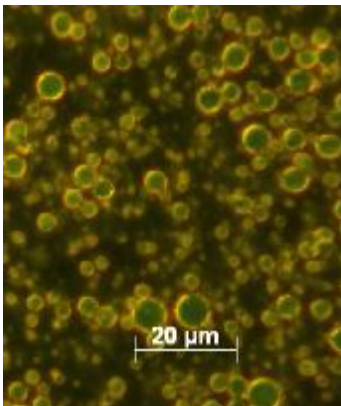
BRAIN AG: Listed Bauhaus building in
Zwingenberg

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Double emulsion-experiment (water in
oil in water) at the IUB: The technology
allows a capturing of the fluorescence
indicator in the compartment and to
detect it with a FACS assay system.

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Emulsion-experiment (oil in water) at
the IUB: Each single compartment
represents an oil encapsulated reac-
tion site and allows coupling of the
reaction product with the enzyme cod-
ing DNA (coupling of genotype and
phenotype)

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Pictures and text

Pictures and text of this press release can be downloaded on www.brain-biotech.de
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