

PRESS RELEASE

Milestone achievement: BRAIN develops novel enzymes for Sandoz antibiotics production

Zwingenberg/Kundl – November, 2004 – An important milestone was achieved in a research collaboration between German biotech company BRAIN AG and Austrian SANDOZ GmbH. Both companies jointly develop enzymes for the biotechnological production of β -lactam antibiotics. Located in Zwingenberg/Germany, BRAIN, a leader in the field of white biotechnology applies its EvoSolution[®] technology platform to the identification and production of biocatalysts from microbial resources. Sandoz GmbH, located in Austria is a leading producer of β -lactam antibiotics like penicillins, cephalosporins and their precursors.

In the production of intermediates for β -lactam antibiotics enzymes have become indispensable as versatile synthetic tools. "The annual production of over 10.000 tons of the key precursor 6-aminopenicillanic acid illustrates the importance of highly efficient biocatalysts for a sustainable production of these specialty chemicals" Dr. Juergen Eck, CSO of BRAIN AG points out. A report published in 2001 by the „Organisation for Economic Co-operation and Development“ (OECD) stresses the relevance of enzymatic processes for a sustainable production of antibiotics and other value chemicals. Accordingly a diverse array of industrial processes in the production of chemicals and pharmaceuticals can be made more efficient and environmentally benign by using biocatalysts. As Dr. Riethorst, head of biocatalysis at Sandoz emphasizes, "the use of biocatalysts to substitute for chemical catalysis is not new to Sandoz. Sustainable production of β -lactam antibiotics through utilisation of biocatalysts brings us important advantages". "White biotechnology seeks to develop production processes involving suitable biocata-

Contact:

BzRzAzIzN
Biotechnology Research
And Information Network AG
Dr. Jürgen Eck
Darmstaedter Str. 34
64673 Zwingenberg

Tel.: +49-6251-9331-15
E-Mail: je@brain-biotech.de
www.brain-biotech.de

SANDOZ GmbH
Dr. Waander Riethorst
Biocatalysis/Industrial Products
Biochemiestr. 10
A-6250 Kundl
Tel.: +43-5338 200 2791
E-Mail:
waander.riethorst@gx.novartis.com
www.sandoz.com

lysts to reduce resource and energy consumption". "We are pleased to collaborate in this important field with BRAIN as a partner with validated expertise".

Putting such plans to work can however be difficult when suitable biocatalysts are not available or cannot be produced in sufficient amounts. "This is where microorganisms come into play as a near limitless resource of novel enzymes" as Dr. Holger Zinke, CEO of BRAIN points out. "Using our EvoSolution® technology platform we can identify enzymes meeting specific process requirements and produce them in suitable production hosts". In the research collaboration with Sandoz GmbH Austria microbial biodiversity was explored using BRAIN's technology platform to develop an enzyme for the production of β -lactam antibiotics. Within Sandoz' established production process this enzyme is supposed to further improve product quality and contribute to process sustainability. This endeavour is not without precedent at Sandoz: the OECD report features the successful implementation of a biotechnological production process for the antibiotic cephalosporin: By using biotechnologically produced enzymes it was possible to significantly improve process economy and lower the ecologic burden by reducing use of solvents to one percent of previous figures.

3.102 keys / 429 words

B·R·A·I·N

Biotechnology Research
And Information Network AG

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 100 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 40.

About Sandoz GmbH:

Sandoz, a member of the Novartis Group, is a world leader in Generics and develops, produces and commercializes these pharmaceuticals as well as pharmaceutical and biotechnological active ingredients. Decades of experience and profound know-how make Sandoz an internationally reputed and sought-after partner in the areas of pharmaceuticals, biopharmaceuticals and industrial products. Sandoz globally employs nearly 13.000 professionals and in 2003 reached a total revenue of USD 2.9 billion.

Sandoz is strongly established in Austria. Global headquarters were moved to Vienna in February 2003. Sandoz GmbH employs over 2700 professionals in research and production facilities in Kundl, Schaftenau and Vienna and is the leading pharmaceutical company in Austria. It generates 98 % of its total revenues in exports to over 120 countries worldwide.

Pictures and text

Text and pictures are available under www.brain-biotech.de ("News").