



On March 1, 2018 BioChem acquired the GMP-compliant „ID by tree Database“ with more than 50,000 recorded species to complete its

Centre of excellence for the identification of microorganisms.

This largest available GMP-compliant database is continuously updated by our experts with the latest pharmaceutically relevant sequences.

In addition, BioChem took over the highly experienced and well-trained team of analysts who focus on the personal consultation of customers from the pharmaceutical and life science industry.

For the benefit of our customers we continuously work with the validated methods for the identification of bacteria, yeasts and moulds.

BioChem now offers the all-in-one solution for any requests regarding microbiological and molecular biological identification of microorganisms.

Simply contact us, our experts will be happy to advise you on your current project.

For further information please contact our microbiological or molecular biological departments:

Dr. Wolfgang Leis

Head of Microbiological Department
Phone: +49 721 9737-113
E-Mail: wolfgang.leis@biochem.de

Alexandra Wagner

Deputy Head of Microbiological Department
Phone: +49 721 9737-265
E-Mail: alexandra.wagner@biochem.de

Dr. Michael Pacher

Head of Molecular Biological/ Microbiological Laboratory
Phone: +49 721 6084-4496
E-Mail: michael.pacher@biochem.de

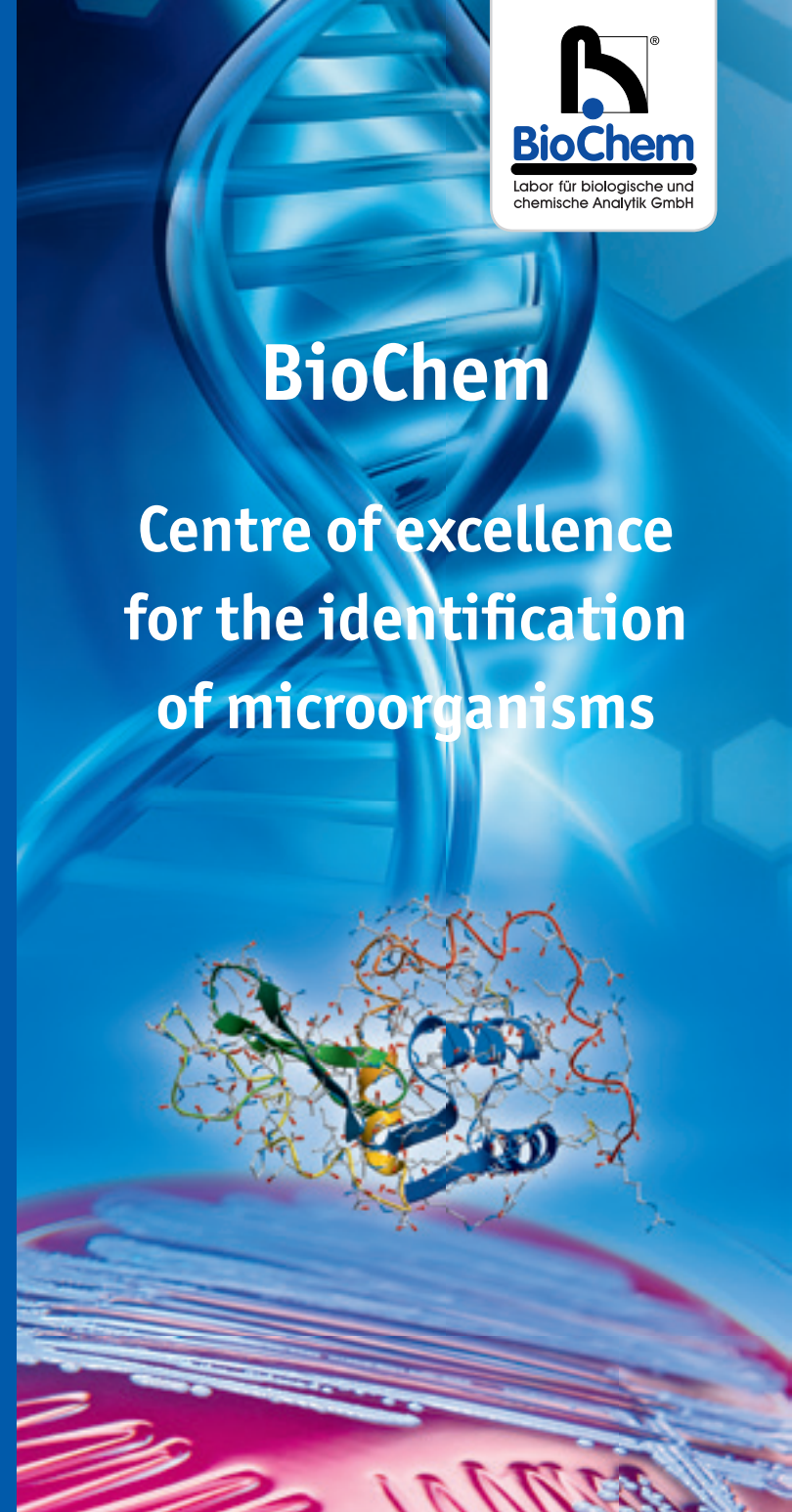
BioChem

Labor für biologische und chemische Analytik GmbH
Daimlerstraße 5b
D-76185 Karlsruhe
Phone: +49 721 9737-0
Fax: +49 721 9737-222
E-Mail: biochem@biochem.de
www.biochem.de
A member of the BioChem Group



BioChem

Centre of excellence for the identification of microorganisms



Based on its excellent microbiological and molecular biological expertise, BioChem offers the whole range of identification of **bacteria, yeasts** and **moulds** using state-of-the-art methods:

- morphological analysis
- mass spectrometry analysis by MALDI TOF and
- molecular biological identification by means of „tree by nadicom“ database



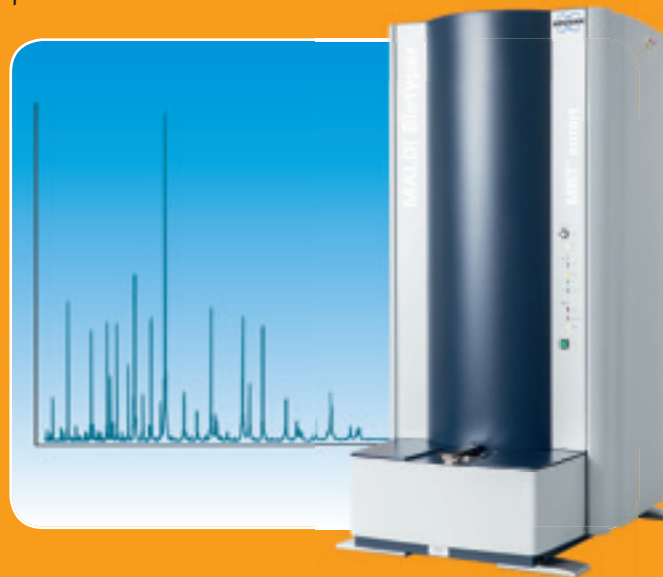
Morphological analysis

Within the classical microbiological identification for differentiation on species level, BioChem uses the following techniques:

- preparation of a pure culture on nonselective growing media
- growth behaviour on selective media
- assessment of the morphology, haemolysis, odour, etc.
- further differentiation by Gram preparation
- microscopic rating of microbe morphology

NEW at BioChem in Q2/2018: MALDI TOF Mass spectrometry analysis

For the identification of microorganisms by MALDI TOF differences in the expressed proteomes of species are analysed. The distinction is mainly based on ribosomal proteins.



Depending on their size these proteins need different times to reach a mass detector, which results in an individual spectrum.

By matching with a database in which spectra of known microorganisms are stored, microorganisms can be identified by their fingerprint.

Advantages of this method:

- very high speed (fastest method available)
- high precision
- large database with annual updates of new species
- very high throughput possible

NEW at BioChem in Q2/2018 Molecular biological testing

Molecular biological identification is the gold standard of identification methods and also part of BioChem's portfolio.

The identity of the microorganism is determined at DNA level. For this purpose, a specific DNA sequence (ribosomal DNA) is amplified by means of PCR (polymerase chain reaction).

Afterwards the amplified DNA will be sequenced. This sequence is then matched with our „ID by tree Database“ for rDNA sequences and thus the identity of the unknown microorganism can be determined.



Advantages of this method and database:

- very precise, fast and highly reliable results
- largest available GMP-compliant database: includes 16S-/18S-/ITS-rDNA-sequences of more than 50,000 species (bacteria, yeasts and moulds)
- DNA fingerprints – genetic typing of microorganisms