



# Platform BacTech-NP: Bacterial Natural Product Optimization via Biosynthetic Engineering and Medicinal Chemistry

Bacterial secondary metabolites represent an incredibly rich source of potential drug candidates. However, most of the bacteria-derived natural products cannot be used due to suboptimal physicochemical or pharmacological properties. A novel approach provided by us uses biosynthetic engineering and medicinal chemistry for the discovery and optimization of pharmaceutically active compounds.

## BACKGROUND

Recent advances in genomics and genetics/biochemistry of secondary metabolite biosynthesis allow rapid identification of genes involved in biosynthesis of bioactive natural products (NPs) in bacteria. This knowledge of biosynthetic pathways, combined with targeted bioengineering can be used to alter the chemical structure of NPs. By use of structure-activity relationship studies and medicinal chemistry, which can also be applied to the new chemical groups on the NP molecule attained via biosynthetic engineering, this technology represents a powerful strategy for drug discovery and optimization.

## TECHNOLOGY

The technology is presented below. Please contact us for details.

## OUR OFFER

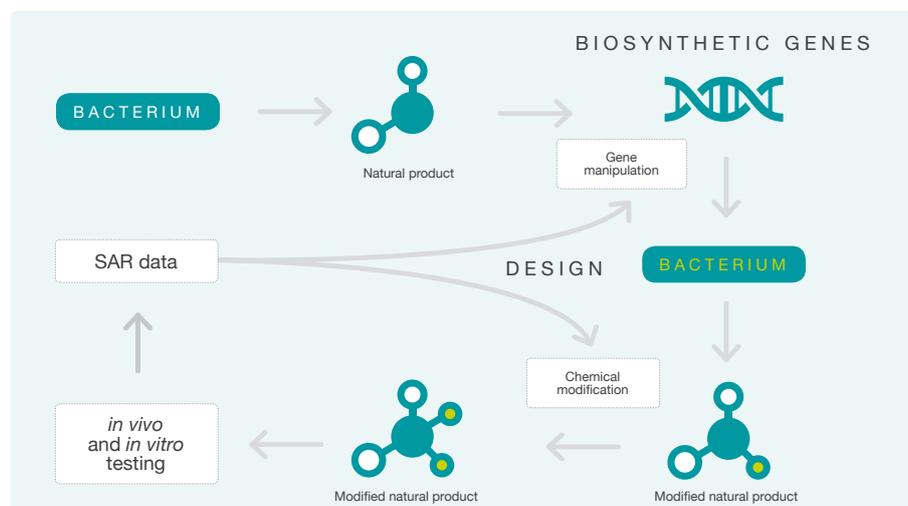
Under protection of a CDA we offer to evaluate possible strategies for the solution of a given optimization problem in drug optimization/production. Once we have confirmed that the problem can be tackled by our unique technology platform, we will offer a comprehensive project plan for the realization of this method and the company can decide if it is willing to engage itself in such a project.

## EXPERTS

Prof. Dr. Sergey B. Zotchev

## DEVELOPMENT STATUS

TRL 1-2



## KEYWORDS

- Natural products
- Novel antibiotics
- Antibacterial
- Antifungal
- Secondary metabolites

## CONTACT

acib GmbH  
Petersgasse 14  
8010 Graz  
tel: + 43 316 873 9316  
e-mail: [bd@acib.at](mailto:bd@acib.at)  
[www.acib.at](http://www.acib.at)