

NUVISAN



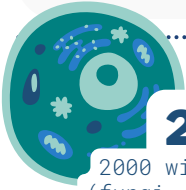
DRUG DISCOVERY

Microbiological Chemistry & Metabolite Discovery

www.nuvisan.com



MICROBIOLOGICAL CHEMISTRY



2.000

2000 wild-type strains
(fungi, yeast, bacteria)

750

engineered hCYP/BM3 enzymes
in E. coli or S. pombe

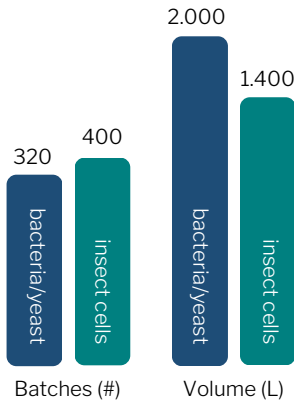


> 60 YEARS

experience in
pharma/agriculture
industry

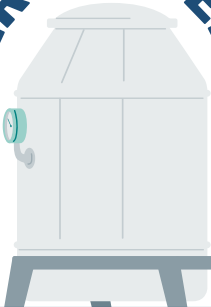
5X WAVE BIOREACTORS

BIOSTAT RM
BIOWAVE



Typical Annual Capacities

FERMENTERS



6x1 L, 2x2 L, 4x10 L,
4x20 L, 1x50 L, 1x100 L
Sartorius B-DCU, C-DCU, D-DCU



Microbiological Chemistry

Our microbiological chemistry team boasts over six decades of expertise in biotransformations within the pharmaceutical and agriculture sectors. Leveraging nature's rich toolbox, we excel in producing drug metabolites, conducting preparative-scale biotransformations, and efficiently upscaling proteins and plasmids. Our proficiency in redox biocatalysis and fermentation further enhances our capacity to support your pharmaceutical and agricultural research and development pursuits.

- Our state-of-the art **screening and fermentation** platform comprises 1 and 2 L Biostat® B-DCU fermenters for optimization purposes, 5 to 100 L steel fermenters for scale-up, and wave-bioreactors for insect cell cultivation
- Our **biooxidation toolbox** consists of a broad and unique wild-type strain collection of fungi and bacteria, of sets of various CYPs in cells, and of isolated enzymes
- With our screening and fermentation capabilities and our biooxidation toolbox our Microbiological Chemistry group is part of our **NUVISAN metabolite discovery** platform and conducts **drug metabolite screening and synthesis**
- Our **protein & plasmid production** platform in collaboration with our in-house enzyme experts can support you in upscaling of expressions in *E. coli* and insect cell systems

SCREENING FOR
METABOLITES



METABOLITE
SYNTHESIS



PROCESS DEV &
ISOTOPE CHEMISTRY



PURIFICATION &
CHIRAL SEPARATIONS



METABOLITE
STRUCTURE ELUCIDATION



METABOLITE ID &
CHARACTERIZATION



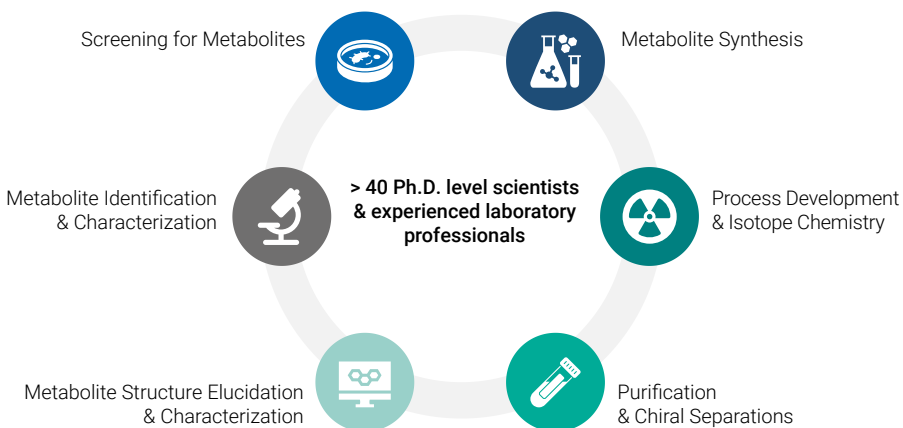
PROTEIN &
PLASMID PRODUCTION



Metabolite Discovery Platform

The NUVISAN metabolite discovery platform combines decades of experience on how to solve any of your requests about **drug metabolites**. We support your biotransformation projects and provide metabolites for pharmacological activity testing, for DMPK and toxicological investigations, and as standards for analytical methods. We **identify, screen for, synthesize, and characterize** the metabolites of your interest.

- We provide **metabolite ID and structure elucidation** by LC-HRMS in various biological matrices
- **Confirmation and identification** of synthesized metabolites with desired drug metabolites from *in vitro* or *in vivo* samples
- Our discovery chemistry platform and process development and isotope chemistry groups have particular expertise in the **synthesis of labeled drug metabolites**
- Our purification platform performs **challenging purifications and chiral separations** by normal, reversed phase, and supercritical fluid chromatography



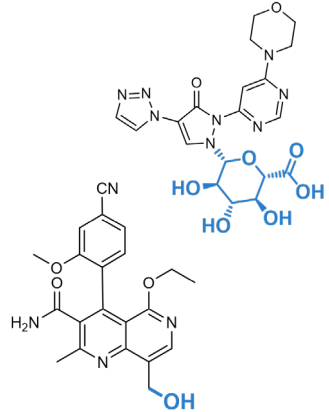


Metabolite Screening and Synthesis



Our highly experienced scientists help your project to synthesize your metabolite by taking advantage of nature's toolbox.

- **Metabolite screening** with 2 TOP panels of wild-type strains and CYP-variants for identification of metabolite producing strains
- Microbial **metabolite processing** including scale-up to a 10 L fermenter, work-up, purification, and structure elucidation
- Microbial **metabolite scale-up** is conducted in up to 100 L fermenters to produce drug metabolites on milligram to gram scale



Protein & Plasmid Production

For your projects in need of protein expression and plasmid preparation we upscale expressions in *E. coli* and insect cell systems.

- **Expression in *E. coli*** in batch- or fed-batch fermentation up to 100 L
- Up to grams of **recombinant protein** harvested as cell pellet
- We routinely **purify plasmids** up to 50 mg per batch
- **Expression in insect cells** in wave bioreactors with 4 - 8 L per batch using baculovirus, transient transfection, or stable cell pools - protein is harvested as cell pellet, and/or supernatant
- **Upscaling of virus stocks and titer determination** by qPCR and/or plaque assay

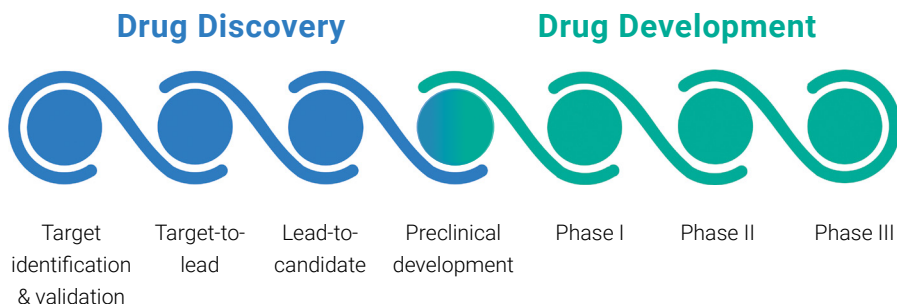


The Science CRO - From Target to Patient

The NUVISAN group is a contract research and development and manufacturing organization (CRO/CDMO) with six sites in Germany and France as well as local experts situated in Latin America.

We offer unique, high-quality, and tailored integrated solutions along the drug discovery and development value chain to our biotech startup, pharma, non-profit, and venture capital clients – from target identification to the patient.

Thanks to more than 40 years of experience and about 1,000 employees (incl. > 70 % industry experienced scientists and lab professionals), we know how to discover, develop, and bring the next generation medicines to market. At the same time, our scientists understand that every project is different. With a flexible and innovative approach and transparent communication, our teams are passionate about closely collaborating with you to adapt to your individual needs.



Contact us



Kai Thede
Head of Microbiological Chemistry
kai.thede@nuvisan.com

NUVISAN ICB GmbH
Muellerstr. 178
13353 Berlin, Germany



Christoph Sachse
VP Business Development
christoph.sachse@nuvisan.com

Web: www.nuvisan.com
Email: hello@nuvisan.com
LinkedIn: [company/nuvisan](https://www.linkedin.com/company/nuvisan)