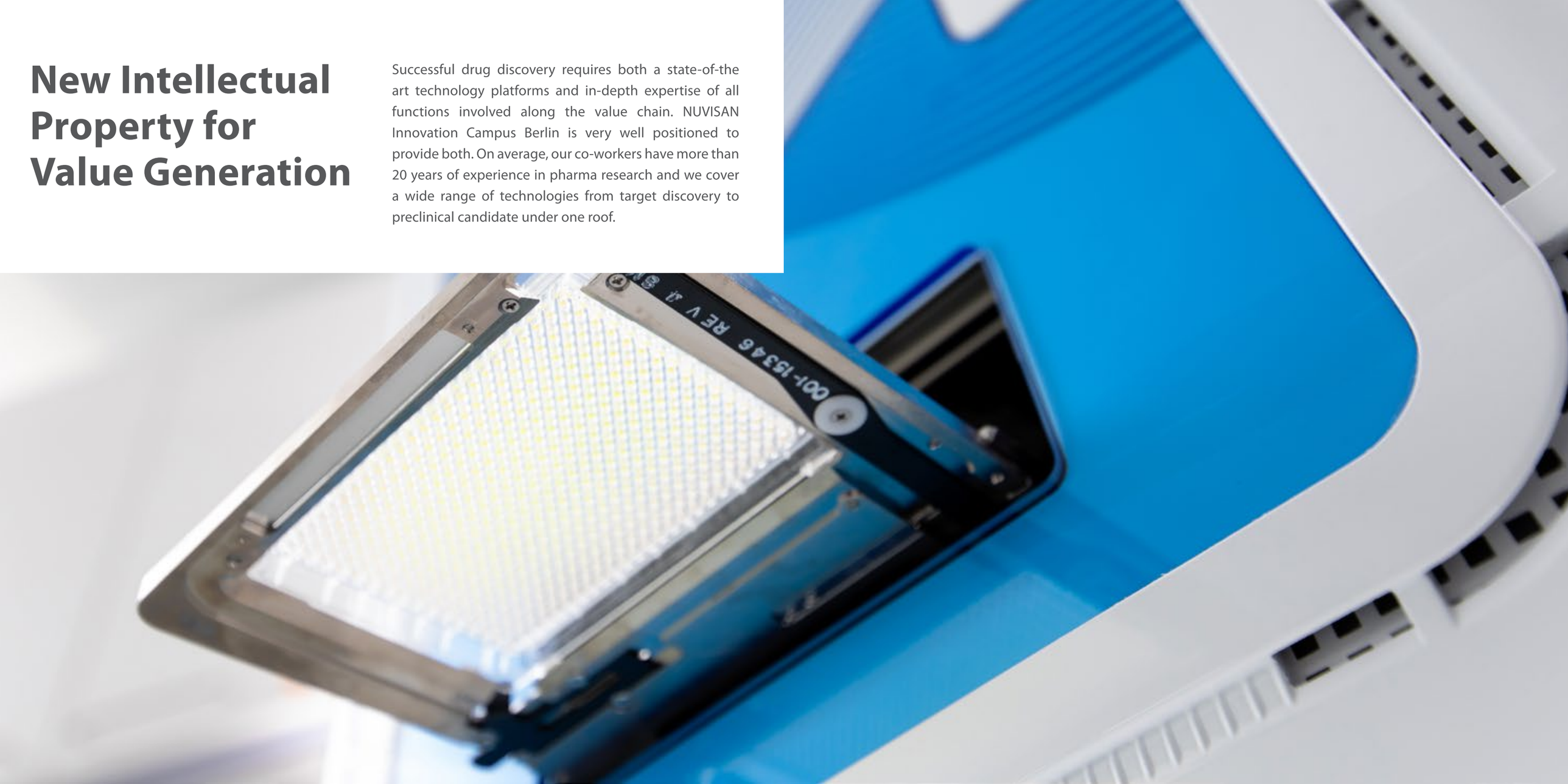
NUVISAN

DRUG DISCOVERY

New Intellectual Property for Value Generation

New Intellectual Property for Value Generation

Successful drug discovery requires both a state-of-the art technology platforms and in-depth expertise of all functions involved along the value chain. NUVISAN Innovation Campus Berlin is very well positioned to provide both. On average, our co-workers have more than 20 years of experience in pharma research and we cover a wide range of technologies from target discovery to preclinical candidate under one roof.



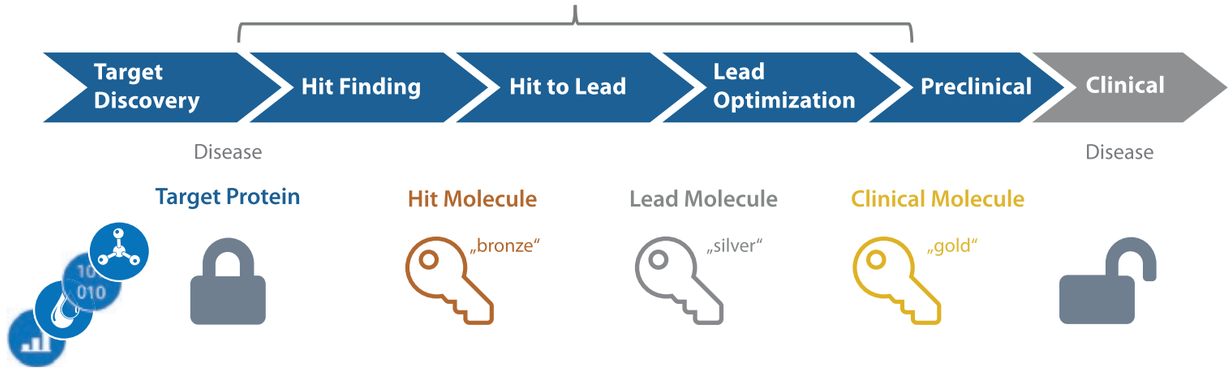
GENERATING NEW IP AT **NUVISAN**

Intellectual Property is an important value driver for projects!

Once you have identified a target of interest and want to increase its value, generation of proprietary chemical matter is a major project goal. Chemical probes and in vitro lead compounds can be valuable milestones on this path leading to a strong patent application to secure your intellectual property in the future and to capture its value.

In many cases, a fast approach can be to use starting points from the literature. However, this is not always sufficient. We can significantly support such an approach with knowledge from our extensive proprietary Life-ScienceDatabase, reflecting in-house experience on lead generation and lead optimization projects. Such lead generation and optimization towards new chemical matter is driven by our experienced medicinal chemists and data scientists.

A partner with in-depth experience, efficient processes, and all necessary technologies under one roof is a major success factor for this challenging task. We are happy to provide custom-made solutions for your projects, a sub-project, or a specific question.



Identify a lock whose function is related to the disease

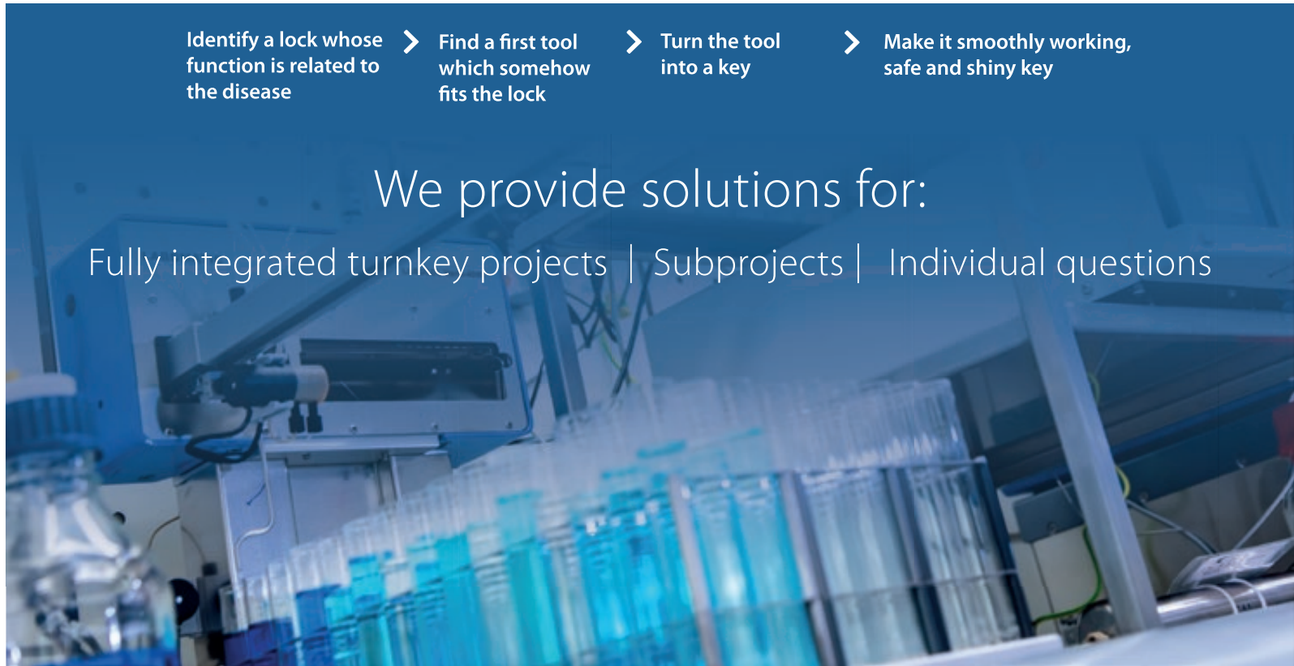
Find a first tool which somehow fits the lock

Turn the tool into a key

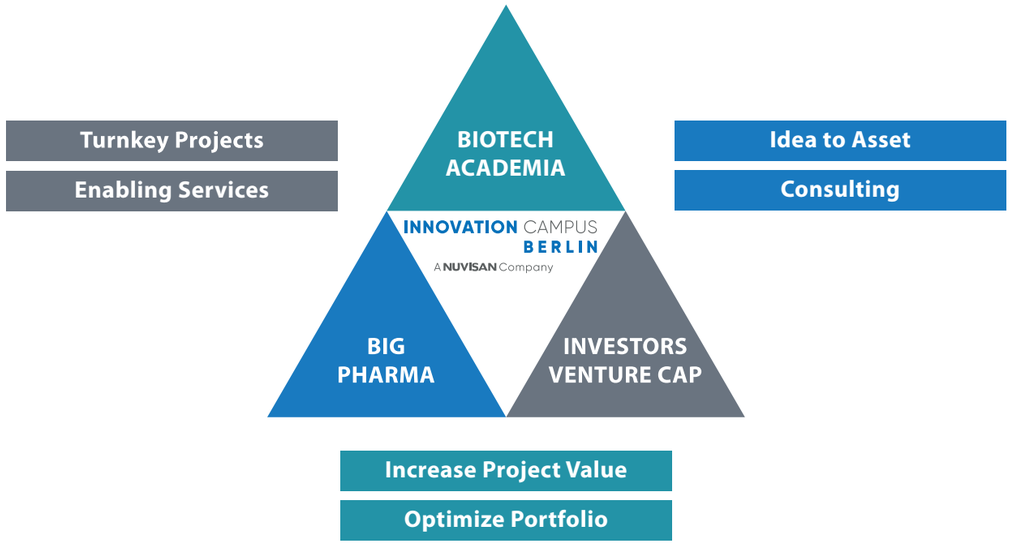
Make it smoothly working, safe and shiny key

We provide solutions for:

Fully integrated turnkey projects | Subprojects | Individual questions



We increase the value of your project



OUR CORE capabilities

We are drug-hunters, enabling multi-dimensional generation and optimization of chemical starting points supported by our broad pharma industry experience.

LG and LO projects are catalyzed by our Life-Science Database (LSDB) and our Digital-Life-Sciences department (data mining, virtual screening, hit expansion).

Strong expertise in screening, the hit-selection process, assessment, modification, and rapid generation of small molecules providing strong intellectual property (IP) positions.

OUR CORE capabilities

Efficient design and synthesis of high-quality test compounds with short cycle-times enabled by computational compound design and the Life-Science Database.

State-of-the art platform for protein technologies and structural biology to support rational drug design.

Integrated pharmacology, DMPK / toxicology, and medicinal chemistry services to deliver highest quality assets in an efficient manner.

Optimization of molecular properties to generate new IP is a team effort. We provide extensive capabilities from all involved functions – all under one roof.

Access to a three million compound library for the generation of novel chemical matter

We have access to a world-class, organically grown HTS screening library containing more than three million well-characterized compounds reflecting the long pharma history of Bayer and Schering – a valuable asset we can offer to our clients for the generation of novel chemical matter.

- Library subsets for screening are available on request. They include highly diverse and representative subsets for first line screens, allowing us to tap into the compound universe.
- The compound library is screened in tailor-made assay set ups by lead discovery scientists in high throughput fashion at > 150.000 data points per day.

Access to Life Science Database with more than 0.5 bn datapoints

We take informed decisions based on the comprehensive Life Science Database which includes proprietary data from physicochemical, biochemical, pharmacological, pharmacokinetic (DMPK), toxicological, and analytical chemical assessment. Connected to our 3 Mio compound collection, this data set:

- is used by Digital Life Sciences for data mining, virtual screening (ligand based and target based) and hit-expansion approaches
- can be synergistically combined with client data or public domain data for AI-approaches
- allows for tailor made accelerated in-vivo-lead access projects

OUR IP GENERATION SERVICES IN DETAIL

Our best-in-class Life Science Chemistry capabilities to achieve this goal include:

- Medicinal Chemistry based on efficient design and synthesis of high-quality test compounds, from chemical probes to clinical candidates.
- Close interaction with lead discovery in HTS hit-list evaluation and long-standing expertise in the Hit-2-Lead process (hit selection, assessment, and modification).
- Rapid development of hit different clusters/singletons into viable lead structures to meet your in vivo lead structure profile.
- Strong drug-hunting attitude within the Lead-2-Candidate process, short cycle-times in multi-dimensional lead optimization programs.
- Parallel synthesis to rapidly explore the chemical space around promising compounds.
- Translational experience from target to clinical candidates in many indications (such as Oncology, Gynecological Therapy, Cardiology).
- Application of state-of-the-art methodologies (photochemistry, electrochemistry, final stage diversification) to quickly synthesize the target compounds of interest.
- Our microbiology group has access to a unique and broad collection of wild-type fungi & bacteria strains, for redox biotransformations and metabolite synthesis on analytic and preparative scale.
- In our analytics group, we offer test compound purification, structure elucidation and physicochemical property measurement under one roof (NMR, MS and beyond).
- Close collaboration with computational compound design experts, therapeutic research functions (in vitro-, ex-vivo, in-vivo studies for your target/ indication of interest) and preclinical compound profiling (DMPK property optimization) to identify a preclinical candidate according to an agreed target product profile.

Our Computational Life Sciences Group increases speed and success rates by rational design of innovative compounds. We provide a state-of-the art platform including:

- Proven track record for predicting novel compounds based on an in-depth understanding of structure-activity relationships.
- Close collaboration with protein technologies and structural biology platform, combined with in depth experience in structure elucidation and interpretation, to enhance compound optimization.
- Data mining into our set of >300 million data points from more than a decade of *in vitro* and *in vivo* research.
- Efficient tools for predicting physicochemical and DMPK properties.

Experts from Lead Discovery, Pharmacology and Preclinical Compound Profiling generate the necessary data to support patent filing:

- High throughput assays and assay panels to rapidly deliver data enabling fast optimization cycles.
- Broad experience covering many different target families and indications to design and set up in vitro and in vivo assays to characterize newly synthesized compounds.
- State-of-the art DMPK and toxicology platform to profile compounds early on to select best hits and to support the hit-to-lead process.
- Extensive pharmacology expertise to assess the optimum positioning of a compound, to explore its maximum indication space and to safeguard IP by in silico, *in vitro*, and *in vivo* profiling.

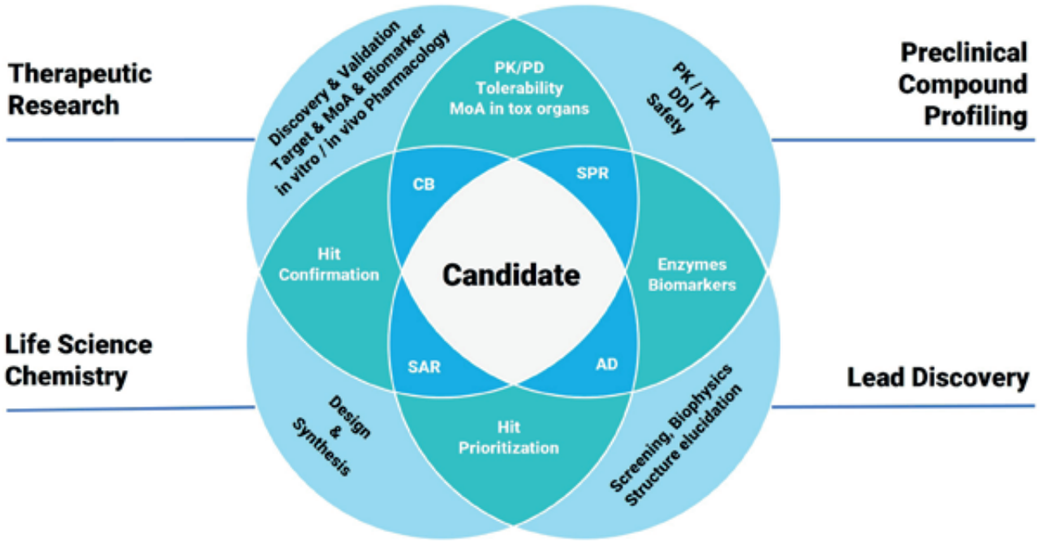
HOW WE WORK TOGETHER WITHIN **NUVISAN**

All functions involved to generate novel lead compounds are located under one roof.

We provide results for projects, subprojects or individual tasks in line with your needs.

We are used to close collaborations between our technology functions and have established efficient processes to deliver on your project goal.

A fully integrated approach to a candidate all under one roof



AD: Assay Development
CB: Chemical Biology
DDI: Drug-Drug Interactions
PD: Pharmacodynamics
PK: Pharmacokinetics
SAR: Structure-Activity Relationship
SPR: Structure-Pharmacokinetics Relationship
TK: Toxicokinetics

Highlights

Decades of successful pharma track record in Life Science Chemistry to advance chemical starting points to novel proprietary compounds via multi-parameter optimization

Unparalleled proprietary life science database with in vitro and in vivo data to enable efficient project progression

Computational Life Science platform to efficiently drive compound prioritization and optimization

State-of the art platforms for lead discovery, pharmacology, and preclinical compound profiling – all under one roof

Strong collaborative mindset – we bring experts from all disciplines together to drive your projects.

HOW WE BALANCE CONFIDENTIALITY AND BRING ALL OUR KNOWHOW TO THE TABLE

We have in-depth experience in drug discovery and in collaborations with pharma companies, biotech and academia, so we are very well-aware of the importance of confidentiality to safeguard intellectual property.

Our promise: We keep confidential information confidential – all our know-how will be brought to the table to make your project successful.

NUVISAN

YOUR PARTNER OF CHOICE

All relevant technologies and competences combined in one team

ONE TEAM

Seamless transition of projects along the drug discovery value chain
Quick turnaround times through close colocalization
Unified data and compound handling standards

ONE PARTNER

Fully integrated drug discovery team along the value chain and beyond
Programs or part of programs to be handled by one partner
Integrated or selected services out of one hand

ONE SOLUTION

High caliber drug discovery team available to drive challenging programs
Long term drug discovery experience and knowledge in one integrated team
High end technology and competence portfolio to deliver on challenging

NUVISAN

YOUR SCIENTIFIC CRO PARTNER

NUVISAN is a fully integrated CRO/CDMO offering all solutions from drug discovery to Proof of Concept in patients including: target identification, high throughput screening, compound profiling, pre-clinical DMPK, toxicology, API synthesis, formulation development, pharmaceutical analysis, and clinical trials in healthy volunteers and patient populations.

With capabilities distributed over 5 locations in Europe and with more than 40 years of experience, we deliver high-quality solutions certified by various accreditations and inspections (e.g. BfArM, EMA, FDA, ANVISA, ANSES, AAALAC, GLP, GMP).

40 **A trusted scientific partner**
With a 40-year track record of customer satisfaction

A wide range of expertise
A unique, comprehensive and integrated offer from target identification to clinical trials

A data-focused expert
Our top priority is to ensure accurate, reliable, and consistent data quality

A flexible service provider
Fast turnaround ability and strong responsiveness to change

Enquire now

Whether you need support in specific areas only, or need a more comprehensive offer, NUVISAN can tailor a solution to fit your specific requirements.

Any questions or need further information?

Call: +49 731 9840-0
Mail: hello@nuvisan.com
Web: www.nuvisan.com

Follow NUVISAN on Linkedin

NUVISAN GmbH | Wegenerstrasse 13 | 89231 Neu-Ulm | Germany