



Portfolio

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2bind is the Premium Partner for Preclinical R&D Biopharma Services in Small Molecule Drug Discovery and Early-Stage Antibody Development—powered by our scalable Biophysical Platform

We support biotech and pharma innovators in discovering, validating, optimizing, and de-risking therapeutic molecules. For small molecule drug discovery, we offer end-to-end support — from protein purification and hit identification to hit validation and hit-to-lead optimization — delivering high-quality data rapidly to enable fast and confident decision-making.

For antibodies and other biologics, our robust and reliable workflows support screening, lead selection, developability assessment, binding and functional characterization, pre-formulation and storage stability. We empower our clients to enter costly development phases with confidence by providing trusted risk assessment and mitigation strategies.

Work with the fastest CRO in the world – to unlock the potential of your small molecule drug discovery

I. Preclinical Small Molecule Drug Discovery

1. Integrated Services for Preclinical Small Molecule Drug Discovery

At 2bind, we support your early-stage small molecule drug discovery from target to lead. Our integrated service portfolio covers protein purification, hit identification, hit validation, and hit-to-lead optimization — all powered by our partner network and our scalable biophysical assay platform. Designed for rapid turnaround and high data quality, our services enable fast, confident decision-making and seamless project progression.

Small Molecule Drug Discovery – From Target to Lead with Speed and Precision

At 2bind, we empower biotech and pharma innovators with end-to-end support across the early stages of small molecule drug discovery. Our approach combines deep scientific expertise, scalable biophysical platforms, and a strong commitment to rapid turnaround—making us a reliable partner from target assessment through hit-to-lead optimization.

Protein Purification

Our discovery process begins with the delivery of high-quality protein targets. Depending on your needs, we either establish a tailored purification strategy or offer access to our catalogue of validated purification protocols. All proteins undergo small-scale purification and rigorous quality control, ensuring they meet the necessary standards for downstream applications.

Hit Identification

We support your screening efforts with custom assay development, scalable assay formats, and a robust biophysical screening infrastructure. From assay establishment and optimization to upscaling and high-throughput screening, our hit identification phase is designed to be both flexible and fast—delivering reliable data at high-speed that drives confident decision-making.

Hit Validation

Complementing the screening campaign, our team rapidly deploys orthogonal assays to confirm and validate promising hits. By integrating different biophysical methods, we ensure that potential binders are not only reproducible but also specific and functionally relevant. This step helps eliminate false positives early and increases the confidence in your hit list.

Hit-to-Lead Optimization

Once hits are validated, we accelerate the transition to lead candidates by committing to fast, iterative binding assessments. This allows seamless integration with your Medicinal Chemistry workflows and supports efficient Structure–Activity Relationship (SAR) studies. Our platform enables frequent data delivery to help guide modifications and molecule evolution and focus your lead optimization strategy.

With a proven track record across a range of chemical modalities and target classes, 2bind brings the experience, speed, and reliability required to turn promising molecules into successful candidates.

In-Depth Target and Lead Characterization

Physicochemical Assessment

- Small Molecule Aggregation and Solubility
- Target Aggregation Assays for Binding Analysis

Target Quality / Stability Assessment

- Conformational and Colloidal Stability
- Size and Oligomerization
- Purity, Homogeneity, Monodispersity

In-Depth Binding Characterization

- Affinity Determination
- Kinetics Determination
- Covalent Binding Assessment
- Stoichiometry Assay
- Interaction Thermodynamics
- Thermal Shift Assay

To support confident progression, we offer in-depth hit and lead characterization studies, including physicochemical assessments of small molecules, comprehensive binding characterization, and target protein quality and stability profiling. These insights provide a robust data package to de-risk development decisions and accelerate your path to clinical success.

Broad Expertise Across Chemical Modalities and Target Classes

Our small molecule services are designed to support all chemical modalities — from fragments to complex small molecules and covalent modalities. Our team of experts combined with our biophysical platform brings extensive experience and value across a range of target classes, including enzymes, receptors, protein–protein interactions, or RNAs. Whether your molecule is classical or intrinsically disordered, we provide the processes and capabilities to move your project forward with confidence.

Chemical Modalities

- Compounds
- Fragments
- Covalency
- PROTACs, Glues
- Peptides

Target Classes

- Globular Proteins
- Intrinsically Disordered (IDPs, IDRs)
- Membrane Proteins
- Multiprotein Complexes
- RNAs
- Transcription Factors
- DNA and Aptamers

Disease Areas

- Cancer
- Autoimmune Diseases
- Infectious Diseases
- Neurological Disorders
- Metabolic Disorders
- Cardiovascular Disorders

2. Our Stand-alone Services for your Small Molecule Drug Discovery

If you are pursuing your small molecule drug discovery journey independently but require targeted support, 2bind offers flexible, high-quality stand-alone services tailored to your needs. Whether you need a specific analysis or want to complement your internal efforts, we are here to help.

Our stand-alone offering includes small-scale protein purification, high-throughput interaction screening, direct binding assessments, and physicochemical and stability profiling. These services are backed by our scalable biophysical platform and rapid turnaround times, ensuring reliable and actionable data.

With deep experience across diverse chemical modalities and target classes, our scientific team delivers fit-for-purpose solutions that integrate seamlessly into your project—whether you're at hit discovery, optimization, or any point in between.

Small Scale Protein Target Purification

1. Purification Establishment or Catalogue Purification
2. Construct Optimization
3. Small Scale Purification
4. Quality Controlling

Physicochemical and Stability Assessment

- Small Molecule Aggregation and Solubility
- Target Conformational and Colloidal Stability
- Target Size and Oligomerization
- Target Aggregator Assays for Binding Analysis
- Target and Lead Stability Optimization

Direct Binding Assays

- Affinity Determination
- Kinetics Determination
- Covalent Binding Assessment
- Stoichiometry Determination
- Interaction Thermodynamics
- Thermal Shift Assay
- Screening of Small Sets or Libraries

Other Services to support your in-house Capabilities

- Small Molecule Library Spotting, Cherry-Picking and Shipping

Platforms and Standing Assays

- Target Feasibility Platform
- Standing Binding Assays

3. Direct Binding Data Generation for AI-based Drug Discovery

Artificial intelligence is transforming drug discovery by generating vast numbers of virtual compounds and *in silico* predictions. At 2bind, we close the gap between digital design and experimental reality with direct binding screening and validation services tailored for AI-driven approaches.

Whether you need to screen a large *in silico* library, test a few hundred compounds, or validate selected virtual hits, our scalable biophysical assay platform delivers rapid, high-quality data on binding affinity, kinetics, and specificity. Nothing provides deeper insights than biophysics—and with our data, your algorithms don't just get validated, they get smarter. By feeding high-resolution binding data back into your AI models, we help refine and train algorithms to improve future predictions.

We also support validation runs for virtually designed small molecules, ensuring that promising candidates are confirmed early and that AI-generated hypotheses are tested against real-world molecular interactions.

With 2bind as your partner, you gain the reliability, speed, and scalability needed to integrate AI-based discovery seamlessly into your drug development pipeline.

Work with the most trusted CRO – to proceed with your lead antibody with confidence

II. Therapeutic Antibodies

1. Integrated Services for Therapeutic Antibodies

At 2bind, we support your therapeutic antibody project before, during and after lead selection. Our integrated service portfolio spans screening including developability assessment, lead selection, and lead candidate risk assessment – all adjustable to your scope and needs - for rapid, reproducible decisions. We support you during the most critical step - the decision for the final lead candidate. We provide quality data including preformulation and storage stability studies to enable you to choose the most promising lead, know its weaknesses and risks, and prepare for preclinical and clinical development. The result is a streamlined path with high-quality data, faster timelines, and confident, smooth and speedy progression on the path to clinical development.

Therapeutic Antibody Research – With Quality and Reliability from Bench to Clinic

At 2bind, we empower biotech and pharma innovators with support before, during and after lead selection. Our approach combines deep scientific expertise, high-end equipment, and a strong commitment to reliable, trusted and fast turnaround with minimal sample consumption – making us a premium partner for research related to early antibody development.

Screening phase

We are committed to providing data enabling solid decisions that will not be questioned during project progression. We developed our platform in a way that balances material consumption and information gain. During the screening phase we apply assays that use minimal amounts of material while delivering a comprehensive overview of binding and developability characteristics for each candidate. Our biophysical approach ensures high-quality and reproducible data in high-throughput assays with short turnover times, thereby improving and accelerating the process of decision-making.

Lead Selection

Deciding on the final lead out of a pool of promising candidates can be a challenge and the better the candidates the more the decision makers will be spoilt for choice. At this stage we recommend extending the characterization and including methods that are higher in material consumption but deliver details that cannot be resolved in the high throughput methods. Furthermore, we suggest keeping an eye on the physiological situation and assessing affinities under avidity-allowing and avidity-excluding conditions plus analyzing real-time kinetics of target cell binding – if of relevance. At this important stage of the project, we implement off-target screens to flag potential issues which are easily overlooked and can cause costly failures in the clinic. We are equipped with a BSL2 cell culture lab and cell based functional assays can be implemented according to the project's requirements.

Lead Candidate Risk Assessment and Mitigation

Once decided for a lead candidate, questions about route of administration, formulation, concentration and storage conditions must be solved. Our technologies and preformulation studies allow a preview and refinement of the room for maneuver. Our goal is to help you to understand any risk that might relate to certain lead candidates and identify ways to overcome these risks by appropriate formulations, concentrations or storage conditions.

With proven experience across diverse antigen classes and therapeutic antibody modalities, 2bind brings the speed, reliability, and scientific depth required to turn promising antibodies into clinic-ready candidates—while de-risking the path forward through early risk assessment and mitigation strategies.

Broad Expertise Across Antibody Modalities, Target Types and Disease Areas

Our antibody development services cover the full spectrum of therapeutic antibody modalities — from canonical full length IgGs and bispecific formats to antibody fragments and antibody-fusion proteins. Leveraging our high-end equipment and deep scientific expertise, we work across diverse target types, including membrane proteins, soluble proteins, and complex multiprotein systems. Whether your antibody is conventional or engineered for unique functions, we provide the processes, data quality, and speed to confidently advance your program.

Your Drug, Our Experience

Antibody Modalities

- IgG1, IgG4, Fc-silenced IgG
- Bispecifics
- Multispecifics
- Nanobodies
- scFvs
- Fabs
- Antibody-fusion Proteins
- ADCs

Target Types

- Membrane Proteins
- Soluble Proteins
- Multiprotein Complexes
- Target Cells

Disease Areas

- Cancer
- Autoimmune Diseases
- Infectious Diseases
- Neurological Disorders
- Metabolic Disorders
- Cardiovascular Disorders

2. Our Stand-Alone Services for your Early-Stage Therapeutic Antibody

If you are advancing your antibody program independently but need targeted expertise, 2bind provides flexible, high-quality stand-alone services designed to fit your specific needs. Whether you require a focused analysis or wish to complement your internal capabilities, we deliver results that integrate seamlessly into your workflow.

Our offering includes antigen protein purification, high-throughput binding or analytical screening, orthogonal secondary screening binding assays, direct binding and affinity characterization, native target receptor binding analysis, as well as early developability assessments such as stability, aggregation, and finally preformulation studies and storage stability assessments. These services are powered by our scalable biophysical platform and fast turnaround times, ensuring high-quality, decision-enabling data.

With extensive experience across antibody modalities and target types, our scientific team creates fit-for-purpose solutions that support your project—whether you are at screening phase, lead selection or optimization, or preparing for clinical advancement.

Target Binding: Kinetics & Affinity

- Binding Screens with Purified Protein and Cells
- Affinity ranking
- Kinetics of Target and Target Cell Binding

Other Services to support your in-house Capabilities

- Receptor Quantification Assay
- Short-, Mid-, Long-Term Stability Assessment
- Stability Optimization via Design of Experiment
- Target Protein Deconvolution

Physicochemical and Stability Assessment

- Multiparametric Unfolding and Aggregation Studies
- Conformational and Colloidal Stability (T_{on} , T_m , T_{agg})
- Self-Interaction Assessment
- Low Molecular (LMW) and High Molecular Weight (HMW) Content Determination
- Charge Heterogeneity Determination

Platforms and Standing Assays

- FcR and FcRm Affinities
- Developability Assessment
- Scouting for Stabilizing Buffers
- Off-target Binding Assessment