

Fox Radical Protein Footprinting Services

Fast, Precise, and Actionable Insights into Therapeutic Target Engagement & Response



Where does
the drug bind?

Did the drug
engage as planned?

Did the target change
structure after
binding?

Are these
biologics structurally
comparable?

Is my AI
model valid?

GenNext's Structural Biology Service Offerings

Target Engagement and Response for Biotherapeutics, Small Molecule Drugs & AI Validation

GenNext uses our proprietary Fox Radical Protein Footprinting (FRPF) platform to answer your most pressing target interaction questions—quickly, accurately, and cost-effectively. We can work with a wide variety of molecules, including mAbs, ADCs, multispecifics, cytokines, Fc-fusions, and other complex protein systems using just a fraction of the sample required of other methods. By localizing solvent accessibility changes down to the single-amino-acid level, we can employ our expertise to deliver answers in just weeks or days for:

Biotherapeutics & Monoclonal Antibodies

- **Epitope & Paratope Mapping**
By selectively modifying solvent-accessible residues, we can provide high-resolution insights into protein interactions—vital for optimizing therapeutics.
- **Biosimilarity Assessment**
By comparing reference biologics and biosimilars to detect structural differences from manufacturing or formulation, we can help monitor for protein comparability.
- **AI Biotherapeutic Drug Discovery**
Shift from later validation to earlier evaluation of competing AI hypotheses. By experimentally validating computational models, the resulting real-world data can be used to infer cause-and-effect relationships between a therapeutic agent and a biological response.

Small Molecule Drug Discovery

- **Target Engagement & Response**
By unambiguously pinpointing binding sites and characterizing target response, we can help to ensure that only promising leads advance.
- **Lead Optimization & SAR**
By confirming if optimized leads maintain target engagement at the residue level, we can anticipate if chemical modifications may change affinity and specificity.

Our Promise: Tailored & Totally Transparent

Clarity, Confidence & Convenience

Every GenNext service project is designed around your key scientific objective and delivered with total transparency, from initial consultation to final report. We handle the complexity so you can focus on what matters most—innovation and discovery.



Unique & Proven Solution

We utilize our specialized Fox Radical Protein Footprinting (FRPF) platform to provide fast results you simply can't get from any other technology or service provider.



Rapid Turnaround

From initial consultation to final report, we answer therapeutic engagement questions within days instead of the months required by legacy techniques. High-resolution data can be used to compress each iteration of the design-test-build cycle.



Collaboration & Security

We work directly with your team to streamline project management, contracting, and billing to ensure transparency, data security, and quick onboarding.

Fit-for-Purpose Services

Whether you're a nimble biotech, a mid-sized pharma, established industry leader, or service provider, our services can be tailored to fit your specific needs. GenNext Services are the ideal solution for organizations that:

- Require expert analysis for specific, mission-critical projects
- Need quick, expert-driven answers to questions about biotherapeutic target engagement
- Lack in-house biological mass spectrometry and/or protein footprinting capabilities
- Prefer not to invest in capital equipment or new technology



Time-to-answers drops from months to days at a fraction of legacy costs for target interaction data. Let our team deliver precise, insightful results that drive your therapeutic decision making at every turn.

Our Six-Step Process from Consultation to Answers

Seamless, Flexible & Fast from Start-to-Finish

At GenNext, we can deliver results within days to a few weeks of receiving your samples. Our services are built for agility, whether you need answers for a single study or a comprehensive, extended analytical partnership. You always get the expertise, reliability, and answers you require with our client-focused process, as follows:

1. Initial Consultation

Our team qualifies your needs via a brief questionnaire, setting the stage for a successful and efficient collaboration.

2. Needs Assessment Meeting

We take a deep dive into your scientific questions and assess how our science, technology, and scientists can help get you the answers you need.

3. Custom Solution Design

Our team then scopes the project by defining deliverables, timeline, and required sample information, ensuring clarity and alignment.

4. Transparent Quotation & Statement of Work

Then you will receive a project quotation detailing the specific experiments, deliverables, and payment terms. Once the quote is approved, a Statement of Work and contract will be executed.

5. FRPF Therapeutic Study

After we receive your samples and buffers, we begin methods development and proceed to the Fox Radical Protein Footprinting study. Check point meetings occur to review critical results that keeps us on track.

6. Fast Analysis & Reporting

Finally, we produce a clear, detailed, and actionable report that informs the next steps in your drug discovery and development process.

Our track record speaks for itself—trusted by industry leaders and up-and-coming pioneers alike. When it comes to biotherapeutic and small molecule protein characterization, along with AI model validation, GenNext stands apart as your expert partner from discovery to development.



Expert Analysis & Actionable Reporting

More than Just Data—You Get Answers

When you partner with GenNext, you get clear, concise answers to your most pressing structural biology questions. Our final deliverable is a detailed report that includes:

Experimental Design & Methodologies

The report provides a clear summary of how your unique research question was tackled, along with a description of the methods, workflow, and techniques utilized.

Raw & Analyzed Results

According to the research methodology, the report will illustrate protein dose response, sequence coverage, peptide- and residue-level oxidation, and differential study results. Publication- and presentation-worthy figures are included, such as histograms, volcano plots, heatmaps, and protein structure maps (if available). Additionally, you can access the raw data files and the full set of processed tables to perform further analyses and to augment your datasets.

Expert Review of Structural Implications

Whether the location of an epitope or paratope, detailed aggregation profiles, or a direct assessment of drug-target binding, the report provides the answer you seek. At the report presentation meeting, we help interpret the results with your team to understand structural changes, interaction surfaces, and relevant mechanistic insights.



Trusted by Innovators

From small biotech to global pharmaceutical leaders, our clients trust us for a partnership mindset focused on their success.

- Strong track record of quickly delivering high-quality, actionable insights
- Proven cutting-edge technology combined with scientific excellence
- Flexible, transparent, and seamless partnership model



Accelerate Discovery, Advance Protein Therapeutics

*When rapid structural insights matter, choose GenNext
for your advanced protein footprinting studies.*