

Accelerate discovery with the platform of choice for leading research organizations

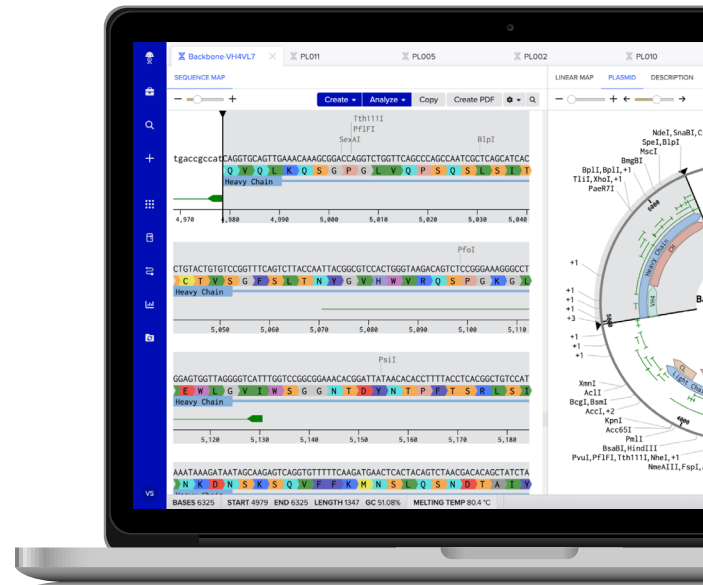
The introduction of new technology is rapidly changing in the life sciences — creating more data than ever before. This surge presents challenges for research teams, necessitating a comprehensive data strategy to effectively achieve their goals in discovery programs. Mirroring other industries that have seen substantial improvements in productivity, efficiency, and accuracy through digital transformation, biotech and pharmaceuticals are also shifting towards a digital-first approach. This shift aims to streamline lab operations and expedite scientific breakthroughs.

Despite a general consensus on the benefits of a modern, data-driven research methodology in enhancing chances of success, many organizations still struggle to adopt effective solutions. Traditionally, researchers have relied on physical lab notebooks, spreadsheets, and outdated Laboratory Information Management Systems (LIMS) to document experimental data and manage samples. These methods, often inflexible and difficult to scale, lead to isolated data pools, increased error rates, and lack bio-aware traceability. Consequently, they suffer from low user adoption and result in significant time loss from needing to reconcile data sets and trace experiment lineages. This inefficiency not only slows down the progress of research programs, but also limits scientists' ability to focus on hands-on lab work or computational experiments. Teams adhering to these outdated practices risk falling behind their counterparts who use advanced software solutions.

Benchling Bioresearch, a platform chosen by leading research organizations of various sizes, enables R&D teams to accelerate their discovery processes and improve their success rates.

Who is it for?

Benchling Bioresearch is for any biotech and biopharma research and discovery teams working on early phases of drug discovery, synthetic biology and other biological research applications in fields like agtech, food science and fermentation.

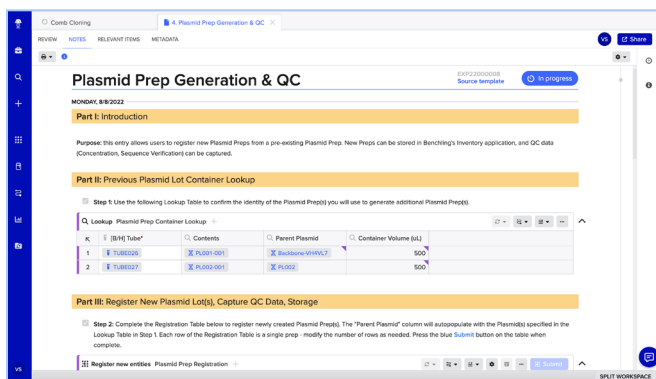


Centralize and standardize data to make better scientific decisions

Discover and design novel biomolecules

Increase speed, coordination and throughput

What can you do with Benchling Bioresearch?



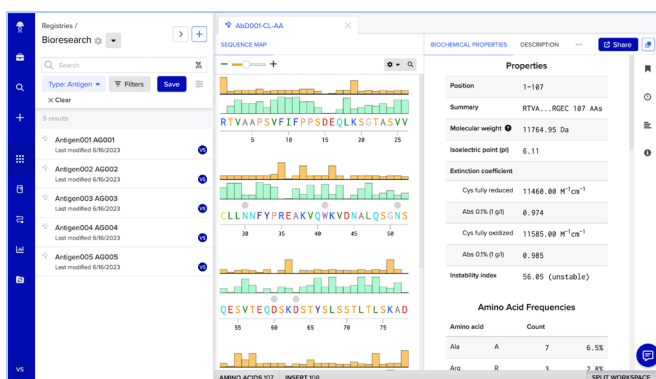
Experimental Data Capture

- Document rich experimental details and assay data with customizable data entry using either freeform entry or structured tables depending on research needs.
- Connect all relevant items by linking everything from plates, containers, and results to automation runs, file attachments, and blob links from within an entry.
- Create, use, and share a library of templates and sub-templates with reusable content for faster experiment setup and scalability across teams.
- Customize your own review and approval processes with shared, live editing within an entry or @mentioning collaborators.



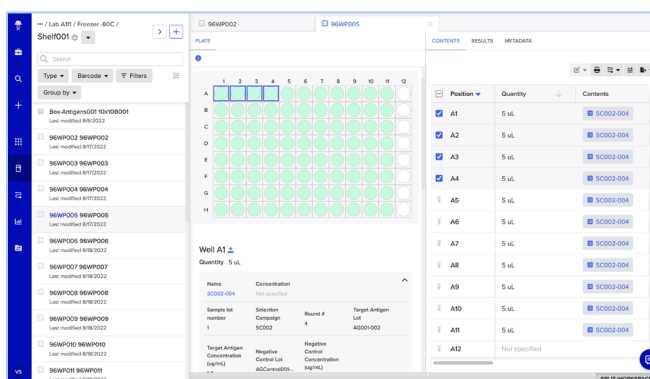
Molecular Design

- Perform single or bulk in silico cloning with common assembly methods and optimize primers using step-by-step guided wizards. View DNA, RNA, proteins, and oligos.
- Perform single or multiple alignments in bulk using an expanded set of algorithms and auto-compute biochemical properties of any sequence.
- Use cutting-edge molecular algorithms like AlphaFold2 and BLAST to analyze sequences.
- Search and find everything from parts and sequences to downstream end products with full experimental context and version history.



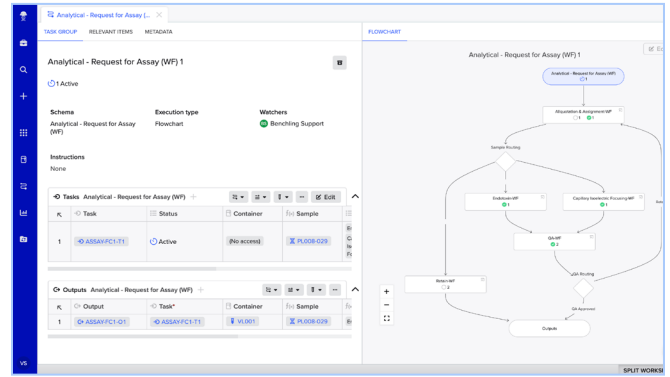
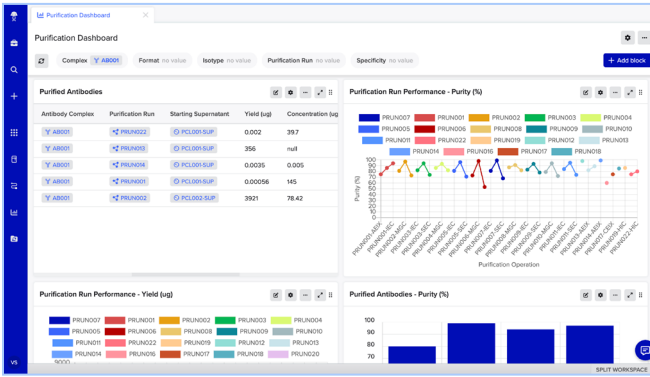
Registration

- A biologically aware registry that can capture DNA, RNA, AA, and oligos with or without modifications. Register entities and manage samples directly from experiment entries.
- Simplify intake with common data fields to standardize conventions for sample collection. Enforce uniqueness constraints based on sequence or chemical structure and ensure consistent use across teams.
- Designate role-based user privileges to view, create, modify, and manage biomolecules and materials.
- Search the registry of sequences for similar entities using industry standard algorithms like BLASTn and BLASTp.



Inventory and Sample Management

- Establish an inventory of lab consumables, equipment, and samples using a flexible framework that is linked closely with the registry and notebook.
- Customize inventory hierarchy by mapping relationships between registered entities and creating explicit parent/child links between entities and their preps, lots, or aliquots.
- Search for and view complete sample data within and across sites with linking among results, experimental info, and entries with registered entities and inventory items.
- Automatically deprecate quantities of reagents and consumables for an accurate record of current stock. Reserve, check in, and check out samples to manage custody.



Operational Insights

- Build and share dashboards and reports that track metrics and answer questions from all data created within or pulled into Benchling.
- Use complex SQL queries as a hypothesis building tool to guide future research.
- View resource and team progress in real-time, and identify opportunities to optimize processes programmatically.
- Query and analyze experimental data to better understand and compare results, including from integrations with JMP, Pluto, Watershed, and other analytics tools.

Workflow Management

- Drag-and-drop tasks in an easy-to-use flowchart to map activities from simple tasks like making a request through complex process dependencies.
- Initiate workflows and assign the next resource when a task is complete to maintain flow, and reroute activities as needed.
- Create and use templates connected to workflows to complete processes efficiently. Propagate data across lab work by establishing how the output of one step becomes the input to the next step.
- Track progress and share program status using real-time status dashboards, notifications, and operational reports.

This collage illustrates the configuration capabilities of the Benchling platform:

- Entity Schemas:** Shows settings for defining data entities and their relationships.
- Lab Notebook Settings:** Details the configuration for lab notebooks, including templates and automation.
- Schema Access Policies:** Displays the interface for defining who can access specific data schemas.
- Automation Schemas:** Shows the configuration for automated workflows and data processing.
- Resources:** Lists and manages various resources used within the platform.
- Developer Console:** Provides tools for integration and development.
- HPLC Run:** Shows a detailed view of a specific experimental run, including parameters and results.

Platform

Benchling Bioresearch capabilities sit on top of the industry's leading cloud-native R&D platform.

- The Benchling platform is flexible to support discovery teams working across a wide array of fast-evolving modalities, activities, and data types.
- Make the system extensible using API to build integrations that automatically pull and push data out of Benchling.
- Extend platform capabilities to third party apps and analytical tools to achieve organizational goals.
- Configure, and reconfigure as needed, everything from permissions to workflows without any code, IT, or vendor involvement.

- Using 21 CFR Part 11 compliant tools, teams can also set up controlled review processes, and use audit trails with human-readable versioning. With a shared data model, users can search across entries, samples, and results generated organization-wide.
- Make FAIR data a reality with Benchling Connect, a flexible, powerful platform for end-to-end data management. Integrate your most-used lab instruments and systems with Benchling to power better decision making and higher R&D throughput.

