Product Sheet

Benchling Molecular Biology

Accelerate Sequence Design and Analysis, At Scale

Benchling

Molecular Biology

Innovate with Modern Sequence Design and Analysis

Benchling

Molecular Biology, a cloud-based software offers a suite of DNA, RNA and amino acid design and analysis tools to increase the throughput, productivity and data quality of your discovery research.

Intelligent molecular biology design software for scientists

Increase throughput of your molecular biology workflows

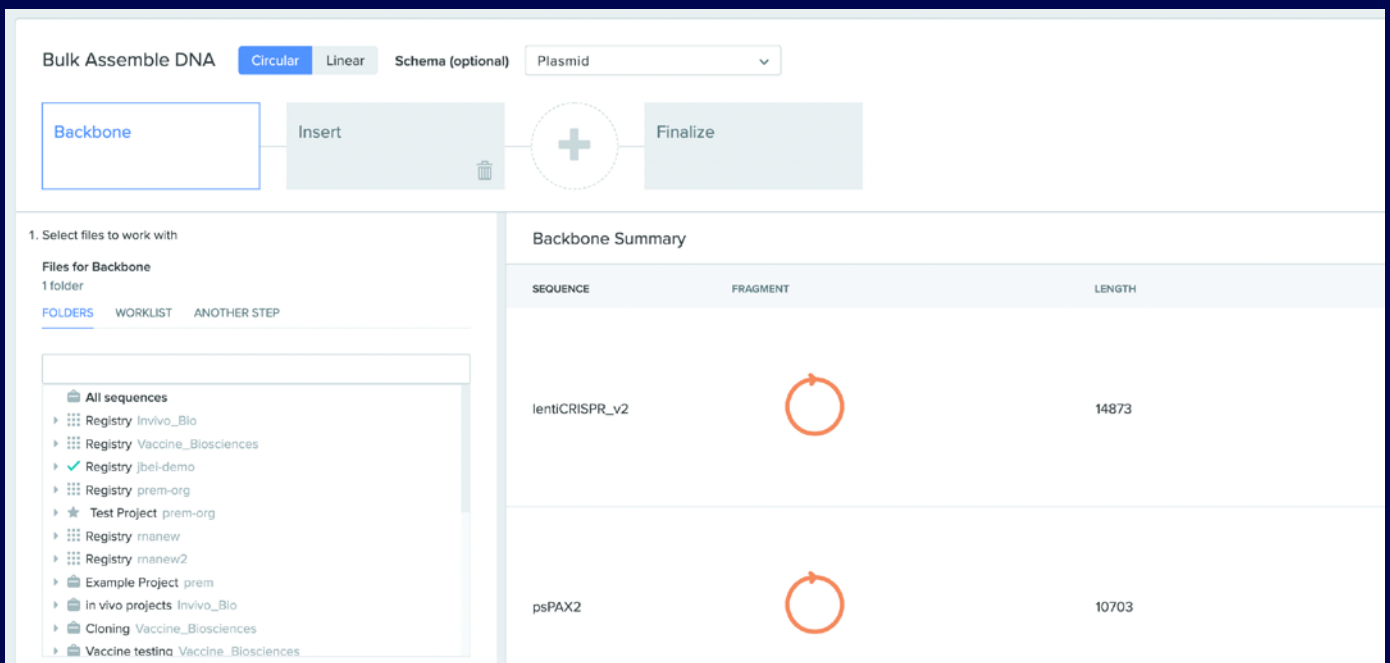
Design and analyze sequences at scale with bulk cloning, alignment, and translation tools.

Reveal more insights with cutting-edge in silico tools

Model and optimize sequences by applying the latest algorithms and advanced design tools to guide experimental work.

Collaborate on sequence design in a cloud-based platform

Leverage Benchling to standardize sequence analysis and registration across teams while improving hand-offs and reducing redundancy of work.



Intuitive sequence visualization

- Create contextual views of DNA, RNA, amino acid sequences as well as oligos with or without chemical modifications
- Create maps in plasmid or linear format that contain informative annotations to review sequences and predict insights
- Optimize restriction cloning, Gibson assembly, Golden Gate assembly and primer design – all assisted with a guided wizard

Comprehensive sequence design tools

- Simulate bulk cloning of commonly used methods including restriction enzyme digestion, Gibson assembly or homologous alignment and predict outcomes
- Perform in silico design of novel RNA molecules including chemically modified RNA and mRNA molecules as well as CRISPR guide RNAs with on-/off-target scoring
- View translation of constructed DNA sequences and perform back-translation of proteins to infer modifications and better optimized sequence design

Intelligent sequence analysis

- Perform either single or multiple alignments in bulk using an expanded set of algorithms to compare and characterize sequences
- Automatically compute biochemical properties of any sequence to better understand complex molecules and possible interactions
- Define the annotation of sequences to designate and document key regions such as ORFs, primer and restriction enzyme sites to generate a more informative view

Standardized sequence registration

- Centralize experimental and analytical data automatically against registered sequences
- Checks to ensure sequence uniqueness during registration that eliminate duplicates and improve recording
- Detect and automatically link registered DNA / RNA regions to full-length DNA / RNA sequences to note predicted regulatory roles or regions of interest

End-to-end sequence traceability

- Maintain version history to identify or restore changes to sequence outputs
- Define access controls and role-based permissions for clear accountability
- Perform advanced searches to find sequences and related results across projects and teams

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Trusted by world class leaders in R&D

Beam THERAPEUTICS

Mammoth Biosciences

23andMe

bio-techne

The Benchling Difference

Benchling interlinks and tracks the entire R&D lifecycle — from project documentation and data acquisition to sequence design, sample management, process management, and reporting. By standardizing and centralizing R&D data and workflows on a single platform, Benchling helps forward-thinking companies accelerate their digital lab transformation to enable better, faster decision-making.

Built for Complex Science

Purpose-built to support the development of anything from biologics and biomaterials to strains and small molecules, Benchling interlinks your sequences, samples, and experiment results to ensure full traceability.

Intuitive and Easy to Use

Benchling's modern user interface — with natively interconnected notebook, sample registration, inventory management, and workflow design applications — means your team can work better and faster, together.

Adapts to Your Process

Built on top of a secure, high-performance cloud infrastructure, Benchling supports evolving scientific workflows and integrates with lab instruments and other software systems to help unify your R&D data ecosystem.

Enables Data-Driven Decisions

Centralized, standardized data capture and storage help ensure the integrity of your data, while integrated analytics tools help you derive the insights you need to make better scientific and operational decisions.

Notebook

Ensure documentation completeness and compliance

Molecular Biology

Accelerate DNA, RNA and amino acid design, at scale

Registry

Standardize, connect, and contextualize sample data

Inventory

Track and manage every sample and reagent

Workflows

Drive R&D efficiency with orchestrated process management

Studies

Generate accurate in vivo study data as part of your connected R&D

Insights

Translate R&D data into actionable insights

Benchling for Lab Automation

Automate instrument orchestration and data acquisition