Benchling

Benchling for Hybridoma Technology

Hybridoma technology is a well-established method for generating monoclonal antibodies (mAB). Humanization of mAB and humanized mice have ensured that the hybridoma technology is still the dominant platform of choice in mAB production today. However, various scientific and organizational challenges persist. Laborious and resource-intensive processes, dependence on animal use, small sample quantities, low titers, and complex assays mean that Scientists have to streamline every step, simplify handoffs, and track large amounts of complex data. Robust data management is key to effectively manage this antibody technology.

Benchling provides a modern, fully configurable, and user-friendly platform to power hybridoma technology. Benchling helps you manage the entire process from antigen design to antibody characterization with intuitive sequence design, centralized library management, collaborative study planning and execution, end-to-end sample tracking, complex assay results capture, and integration with lab automation.

Design high quality immunogens by simplifying sequence design, library management, and synthesis data capture.

- **Visualize and design sequences of various antigens** including amino acids and cDNA with the latest Molecular Biology tools
- **Manage a diverse range of immunogen types** such as peptides, recombinant proteins, whole cells, and plasmids with a customizable Registry system
- **Streamline experimental design and record keeping** of Immunogen synthesis studies with the Notebook app with built-in Results tables to standardize data capture

Generate high affinity diverse antibodies from animal immunization with collaborative study management and intelligently linked sample tracking tools.

- **Create experimental plans and animal study protocols** by using templates for standardization of protocols
- **Centrally document all in vivo studies and automatically link entries** to the key samples such as spleen cells and hybridoma clones
- **Track lineage and sample locations end-to-end** from tissue samples, spleen cells, myelomas, B-cells, and hybridoma clones to antibody candidates

Screen for hybridomas by integrating with lab automation and intuitive plate management tools.

- **Create, analyze, and store assay plates** with our simple and intuitive plate design and management tools
- **Integrate with high throughput automation** and analytical instruments for complete end-to-end traceability of results with experiments
- **Centralize and automatically link experiments and results** to hybridoma hits

Record the production and purification of antibodies and create comprehensive characterization profiles of antibody hits.

- **Optimize antibody production and purification methods** with longitudinal data from Benchling Insights
- **Intelligently link characterization results to specific batches** of hybridomas and antibodies
- **Manage cryopreservation of hybridoma clones and sub-clones** with our Inventory solution