



SHARED RESOURCES

Antibody Technology

Fred Hutch's Shared Resources are catalysts for lifesaving discoveries. This uniquely centralized program of 15 specialized core facilities and scientific services drives advances by integrating dedicated experts and cutting-edge technologies across the entire research pipeline, from basic science to clinical trials.

LEARN MORE

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The Antibody Technology core facility designs custom monoclonal antibody discovery campaigns to identify antibodies to a variety of targets including native proteins, modified peptides and small molecules. It features a custom high-throughput platform for hybridoma generation. Since 2014, the 1,800ft² core facility has been completely renovated with over \$2 million in new instrumentation. Its four scientists have deep expertise in cell biology, lab automation, high-throughput screening, and antibody production and purification.

The core facility's scientists devise screening strategies using a novel protein- and cell-based flow cytometric assay, rather than more traditional ELISA screening protocols. Often, screens consist of a multiplex of antigens, allowing simultaneous identification or counter-screening of antibodies to five or more targets. Since its inception in 1995, the laboratory has developed over 7,500 monoclonal cell lines, several of which are commercially licensed.

Projects for academic and industry clients span a wide range of research areas. These include antibody-based vaccine development, antibody discovery for biomarker assays, and chimeric antigen receptor design for cellular immunotherapy.

The in-house integration of Antibody Technology and Fred Hutch's Molecular Design and Therapeutics core facility offers an affordable target-to-antibody discovery platform capable of generating diagnostic and therapeutic reagents and novel research tools.

Services

- Custom antigen design
- Novel and proprietary immunization, hybridoma generation and screening strategies in multiple species
- Optimization of existing hybridoma cell lines by selection cloning
- Antibody production and affinity purification

Key Equipment

- Molecular Devices ClonePix 2 and SciRobotics colony pickers
- Intellicyt iQue Screener and iQue Screener Plus high-throughput flow cytometers
- Tecan EVO and Agilent Bravo liquid handlers
- LiCONiC automated STR incubator and freezer
- Thermo Scientific automated thermocyclers
- Advanced Analytical Fragment Analyzer