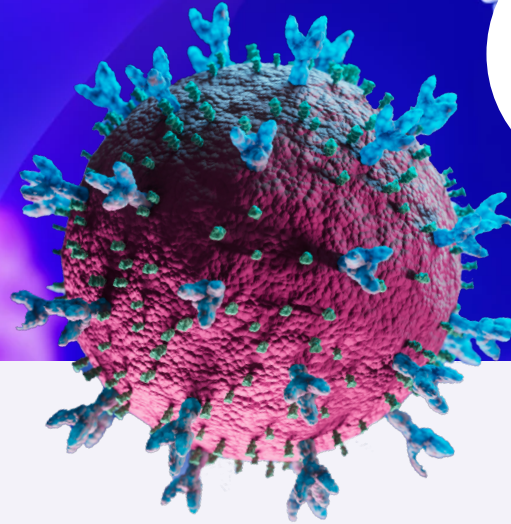# Expanding Immune Intelligence with the Human Adaptome

iRepertoire, Inc.

Decoding the adaptive immune repertoire to **improve health**

Founded at the HudsonAlpha Institute for Biotechnology, iRepertoire pioneered the commercialization of NGS-based immune repertoire sequencing of T and B Cells, the biological frontline defense from disease and infections.

The Adaptive Immune Receptor Repertoire (AIRR) represents a powerful biomarker with broad clinical and commercial relevance. It informs not only about historical immune exposures but also about the early detection and progression of autoimmune diseases and cancers. Positioned at the intersection of the growing multi-omics market, AIRR analysis is foundational for advancing high-value therapeutics such as cell therapies, antibody-drug conjugates, and mRNA vaccines. It has the long-term potential to serve as a universal indicator of health.

iRepertoire's services are uniquely specialized to capture the rich complexity and diversity of all seven T-cell and B-cell receptor chains, providing a comprehensive picture of the immune system's status. This enables pharma and biotech partners to accelerate therapeutic development, monitor treatment responses, and improve clinical outcomes with confidence.

Driven by a culture of scientific rigor and innovation, iRepertoire is positioned as both a technology leader and a strategic partner, delivering critical analytical capabilities that support the next wave of transformative immunotherapies.

Advancing key clinical areas with multi-chain repertoire analysis

Immuno-oncology Therapy Monitoring

Comprehensive TCR/ BCR repertoire and gene expression insights to track treatment response, reveal biomarkers of efficacy or toxicity, and support data-driven clinical decisions.

Cell Therapy Optimization

Cell therapy optimization and quality control with multi-omic immune profiling that validates manufacturing consistency, confirms therapeutic phenotype, and de-risks clinical development.

Infectious Disease Therapeutics

Advance infectious disease therapeutics by mapping rare antigen-specific B- and T-cell responses, defining host immune signatures, and guiding the discovery of vaccines and monoclonal antibodies.

Autoimmune Disease Biomarker Discovery

Uncover autoimmune disease biomarkers by profiling rare B and T-cell clones and immune repertoires—delivering reproducible insights into disease mechanisms, diagnostics, and treatment response prediction.

iRepertoire, Inc.

Immune profiling solutions with expert support

Bulk Repertoire Profiling

- Sensitive and comprehensive immune profiling of T- and B-cell receptors V(D)J region from routine clinical samples (blood, PBMC, FFPE).

- Seamlessly integrates with multi-omic programs, providing genomic snapshots of the adaptive immune receptor repertoire (AIRRseq) across samples, conditions, and timepoints.

Single Cell Profiling

- Capture therapeutically relevant TCR or BCR cognate receptor pairing from FACS isolated single T-cells or single B-cells using our iPair platform/service.

- High sensitivity and accuracy, even with low cell counts or rare cell types.

Bioinformatics

- Leverage our expertise with Expanded Data Analysis services to help uncover early and statistically significant biomarker signals to help clearly inform clinical programs.

- Expert data analysis support for all applications

Our commitment to quality

iRepertoire's Quality Management System adheres to GCLP standards, ensuring its innovative products and services are of the highest quality and meet or exceed customer requirements and expectations. iRepertoire's commitment to Continual Quality Improvement (CQI) includes continuous staff training, state-of-the-art equipment, and rigidly maintained systems. These measures effectively and efficiently control product supply and project completion in a timely, accurate, coherent, relevant, and professional manner.

Our commitment includes:

- Subject Matter Expert review, from library preparation through data QC, to ensure high quality results

- A data QC pipeline to analyze the conversion of raw reads to mapped and condensed reads, which includes quality flagging

- Batch sharing analysis for flow cells to identify potential sample mis-labeling and/or cross-contamination to guarantee reliable results

- Inclusion of negative and positive control library preparations (in replicate) alongside sample batches

- Stringent QC parameters on critical reagents utilized in processing

Partnerships that drive breakthrough discoveries

ImmuneWatch   IN8bio   HUDSONALPHA INSTITUTE FOR BIOTECHNOLOGY   LUPUS RESEARCH ALLIANCE   Champalimaud Foundation

Access immune sequencing resources, learn more about our technology, or schedule a consultation at iRepertoire.com

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