



Cerba Research

Transforming research, advancing health together

Immune Repertoire Sequencing: A Powerful Tool for Immune System Analysis

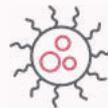
Do you want to gain a deeper understanding of the immune system and how it responds to a disease or therapy? Immune repertoire sequencing can help!

Immune repertoire sequencing is a cutting-edge technology that allows you to study the diversity and specificity of immune cells in a sample. By analyzing the immune repertoire, we gain a better understanding of how the immune system reacts during clinical trials and therapy development.

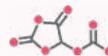
At our lab, we offer comprehensive immune repertoire sequencing services that can be tailored to the needs of your pre-clinical and clinical trial research. Our state-of-the-art sequencing technologies ensure accurate and reliable results, while our team of experts provides in-depth analysis and interpretation of the data.



Applications of immune repertoire sequencing includes:



Developing immunotherapies for cancer and other diseases



Biomarker discovery



Vaccine development and studying the immune response to infectious diseases, such as COVID-19, influenza, RSV, dengue, and HIV



Investigating the role of the immune system in autoimmune diseases, like rheumatoid arthritis

Whether you're a researcher, clinician, a biotech or a pharmaceutical company, our immune repertoire sequencing services can help accelerate your research efforts, product development and advance clinical trials.

Contact us today to learn more about our immune repertoire sequencing services!



Here are the main steps involved:

Sample collection and preparation:

Immune repertoire sequencing begins with the collection of a sample containing the immune cells of interest. This can be blood or a tissue biopsy, depending on the specific research question. If required, the immune cells of interest can be further enriched.

RNA extraction:

RNA is extracted from the isolated immune cells using a commercial RNA extraction kit. The RNA is then reverse transcribed into cDNA, which will be used as the template for library preparation.

Library preparation:

The cDNA is amplified using PCR with primers specific to the segments of the B-cell or T-cell receptors coding DNA. This generates a library of DNA fragments representing the immune repertoire.

Sequencing:

The library of DNA fragments is then sequenced using high-throughput sequencing platforms. This generates millions of reads representing the diversity of the immune repertoire.

Data analysis:

The raw sequencing data is processed and analyzed to identify the individual B-cell or T-cell clones present in the sample. This typically involves filtering out low-quality reads, clustering similar reads into unique clones, and determining the frequency of each clone in the repertoire.

Data interpretation:

The final step involves interpreting the results to gain insights into the diversity and specificity of the immune repertoire. This may involve comparing the repertoire to a reference database, identifying clonal expansions or diversity changes associated with disease, or exploring the relationship between the immune repertoire and other clinical or demographic factors.

Joining forces: our repertoire sequencing service



Wet-lab expertise



Dry-lab expertise



Decoding the immune system

Aligning our expertise

