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# Celerion Vaccine Bioanalytical Assessments



# Multiple Bioanalytical Assays for Vaccine Studies

## Cellular/Functional Assays

# Flow Cytometry

- T cell, B cell, & NK cell panels
- Specific cell population isolations
- Enumeration of vaccine-induced T cell

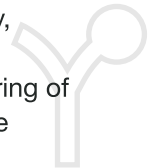
## Cell-Based Assays

- Neutralizing antibody assays
- Viral titers estimate by cell culture



## Elispot

- Cytokines (IFN- $\gamma$ , Granzyme B)
- Immune monitoring of patient response



## ELISA

- Antibody titers
- Anti drug antibodies (ADA)
- Seroconversion
- PK/primary endpoint

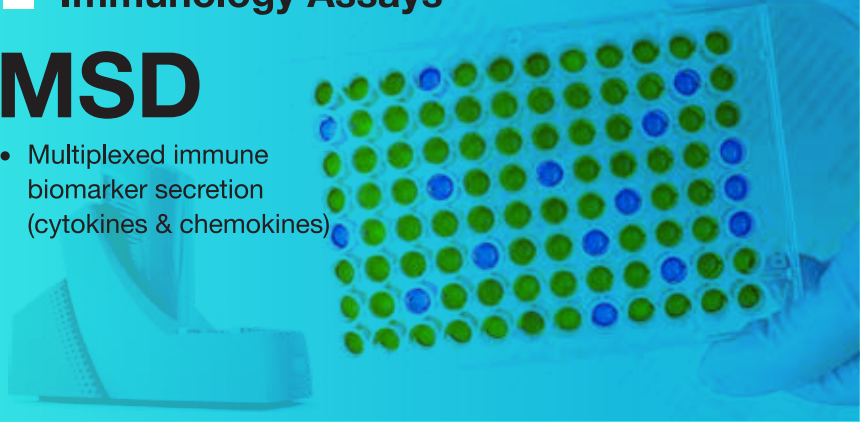
## Meso Scale Discovery

- Multiplexed immune biomarker secretion (cytokines & chemokines)
- Multiple detection of vaccine antigens

## Immunology Assays

# MSD

- Multiplexed immune biomarker secretion (cytokines & chemokines)



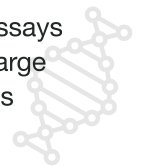
## Molecular Biology Assays

# qPCR

- Viral load
- Genotyping
- Viral products
- Gene expression
- Molecular monitoring of host immuneresponses

## Experience

500+ off the shelf assays support small and large molecule bioanalysis



## Speed

Automation technologies and sample analysis processes deliver data quickly and efficiently with 42+ LC-MS/MS instruments at our disposal

# Bioanalytical Matrices

We can perform this analysis in various matrices including whole blood, primary cells, fresh or frozen PBMC, cell lines, urine, tissue, and tumor-infiltrating lymphocytes.

- Whole blood processing (PBMCs, serum, plasma)
- Automated RNA/DNA extraction, purification, and quantification

## Swiftiness and Speed

Our laboratories focus on science, compliance and speed to deliver high-quality data. Our state-of-the-art automated facilities in Zürich, Switzerland and Lincoln, Nebraska USA, are among the most respected laboratories in the industry.

- Rapid turnaround due to geographic proximity
- Three-tier biomarker validations based on fit-for-purpose approach in a GLP environment that is consistent with all global regulatory guidelines
- Easy assay transfer between our bioanalytical laboratories



## We are Celerion

Celerion is derived from the Latin celeritas (meaning swiftiness and speed), which reflects our founding principle - that fast, reliable research is vital to a product's success.

See our full bioanalytical assay list at: <http://bit.ly/celerion-bio-assays>



**40+**  
years  
experience



**100**  
method validations  
per year



**100+**  
scientists



**600,000**  
samples analyzed  
per year