



## Simoa® Homebrew Custom Assays Powers Advancements in Biomarker Research

Simoa® Homebrew Custom Assays empowers researchers to create personalized, ultrasensitive immunoassays for their specific biomarker research needs. Leveraging Simoa® digital technology, Homebrew Custom Assays offers a comprehensive solution that includes assay design, development, and validation. Researchers can choose their target analytes and specify the assay parameters, allowing for tailored solutions to address unique research questions or clinical diagnostics requirements.

The process involves the selection of specific antibodies or reagents, assay optimization, and rigorous validation to ensure robust and accurate results. Quanterix's Homebrew service offers a flexible and ultrasensitive platform for detecting a wide range of biomarkers, enabling breakthroughs in fields such as neurology, oncology, inflammation, infectious disease, and more.

## Solutions to Advance Your Research

### OPTIONS OF SIMOA®:

- Purchase assays for use on the Quanterix SR-X™, or Simoa® HD-X™ Analyzer platform
- Submit samples to our **Accelerator Laboratory** for analysis
- Choose between singleplex and multiplex assay options to measure targets alone or with other biomarkers of interest

### BENEFITS OF SIMOA®:

- Access biomarker data with unparalleled sensitivity and accuracy
- Study health and disease with a less invasive approach
- Transform the way we detect diseases
- Advance scientific understanding of physiological effects, prognosis, and management of disease

**SR-X™ Biomarker Detection System**  
The first benchtop instrument to offer true multiplex detection at both acute and baseline levels.



**HD-X™ Analyzer**  
Delivering fully-automated ultra sensitive biomarker detection you can count on.



# Simoa® Technology Enables Best-in-Class Research to Advance Scientific Breakthroughs

Below represents a curated list of peer-reviewed publications where the Quanterix Simoa® Homebrew Custom Assays were used as part of research studies.

## NEUROLOGY

Ultrasensitive digital immunoassays for SOD1 conformation in amyotrophic lateral sclerosis

*Bioanalysis* 2023

<https://doi.org/10.4155/bio-2023-0103>

Association of Serum Brain-Derived Tau With Clinical Outcome and Longitudinal Change in Patients With Severe Traumatic Brain Injury

*JAMA Netw Open* 2023

<https://doi.org/10.1001/jamanetworkopen.2023.21554>

Thimet oligopeptidase as a potential CSF biomarker for Alzheimer's disease: A cross-platform validation study

*Alzheimers Dement (Amst)* 2023

<https://doi.org/10.1002/dad2.12456>

Peripherin is a biomarker of axonal damage in peripheral nervous system disease

*Brain* 2023

<https://doi.org/10.1093/brain/awad234>

Plasma and CSF concentrations of N-terminal tau fragments associate with in vivo neurofibrillary tangle burden

*Alzheimers Dement* 2023

<https://doi.org/10.1002/alz.13119>

Synaptic biomarkers in the cerebrospinal fluid associate differentially with classical neuronal biomarkers in patients with Alzheimer's disease and frontotemporal dementia

*Alzheimers Res Ther.* 2023

<https://doi.org/10.1186/s13195-023-01212-x>

## ONCOLOGY

Integrated pipeline for ultrasensitive protein detection in cancer nanomedicine

*RSC Adv.* 2023

<https://doi.org/10.1039/d3ra02092d>

Phase 1 study of the liposomal formulation of eribulin (E7389-LF): Results from the breast cancer expansion cohort

*Eur J Cancer* 2022

<https://doi.org/10.1016/j.ejca.2022.03.004>

Single-molecule array assay reveals the prognostic impact of plasma LRIG1 in ovarian carcinoma

*Acta Oncol* 2022

<https://doi.org/10.1080/0284186X.2022.2140016>

Reverse Transcriptase Inhibition Disrupts Repeat Element Life Cycle in Colorectal Cancer

*Cancer Discov* 2022

<https://doi.org/10.1158/2159-8290.CD-21-1117>



### IMMUNOLOGY

Evaluation of plasma IL-21 as a potential biomarker for type 1 diabetes progression

*Front Immunol* 2023

<https://doi.org/10.3389/fimmu.2023.1157265>

Osteonecrosis in patients with juvenile dermatomyositis: is it associated with anti-MDA5 autoantibody?

*Rheumatology (Oxford)* 2023

<https://doi.org/10.1093/rheumatology/keac696>

Single Molecule with a Large Transistor – SiMoT cytokine IL-6 Detection Benchmarked against a Chemiluminescent Ultrasensitive Immunoassay Array

*Adv. Mater. Technol* 2023

<https://doi.org/10.1002/admt.202201910>

Juvenile Neuropsychiatric Systemic Lupus Erythematosus: Identification of Novel Central Neuroinflammation Biomarkers

*J Clin Immunol* 2023

<https://doi.org/10.1007/s10875-022-01407-1>

### INFECTIOUS DISEASE

Dissecting human population variation in single-cell responses to SARS-CoV-2

*Nature* 2023

<https://doi.org/10.1038/s41586-023-06422-9>

Baseline stool toxin concentration is associated with risk of recurrence in children with *Clostridioides difficile* infection

*Infect Control Hosp Epidemiol* 2023

<https://doi.org/10.1017/ice.2022.310>

Quantitative performance of digital ELISA for the highly sensitive quantification of viral proteins and influenza virus

*Anal Bioanal Chem* 2023

<https://doi.org/10.1007/s00216-023-04600-2>

Circulating Spike Protein Detected in Post-COVID-19 mRNA Vaccine Myocarditis

*Circulation* 2023

<https://doi.org/10.1161/CIRCULATIONAHA.122.061025>

### OTHER

Improved isolation of extracellular vesicles by removal of both free proteins and lipoproteins

*Elife* 2023

<https://doi.org/10.7554/eLife.86394>

The Role of the Complement Pathway in Clinical Progression of Geographic Atrophy: Analysis of the Phase III Chroma and Spectri Trials

*Ophthalmol Sci* 2023

<https://doi.org/10.1016/j.xops.2023.100301>

Development of a digital anti-Müllerian hormone immunoassay: ultrasensitive, accurate and practical strategy for reduced ovarian reserve monitoring and assessment

*Talanta* 2023

<https://doi.org/10.1016/j.talanta.2022.123970>

Alternative Complement Pathway Inhibition by Lampalizumab: Analysis of Data From Chroma and Spectri Phase III Clinical Trials

*Ophthalmol Sci* 2023

<https://doi.org/10.1016/j.xops.2023.100286>



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