

# PROPEL YOUR RESEARCH FORWARD

with the Simoa Accelerator Laboratory



The power of Simoa technology can expand the limits of your biomarker exploration and accelerate your time to drug approvals

# ACCELERATE YOUR RESEARCH WITH THE ACCELERATOR LABORATORY

## Custom biomarker testing and assay development services

### About the Laboratory

The Simoa® Accelerator Laboratory is your go-to, CLIA-Licensed resource for custom biomarker and biopharmaceutical research, custom assay development, clinical sample testing, and precision data delivery. Gain instant access to Quanterix' full suite of instruments and assays including the new next-generation Simoa planar platform with 10-plex assay capability. Propel your research further than any other contract research company by detecting proteins and nucleic acids at the lowest possible levels with Simoa capabilities.

- 1000x higher assay sensitivity compared to standard ELISA
- Quantify proteins that are BLOQ in typical immunoassay platforms and access baseline analytes in healthy subjects and disease indicators
- Use your proprietary antibodies/reagents or commercially available reagents
- Flexible scale to handle studies of one plate up to thousands of samples
- Singleplex and multiplex detection of proteins and nucleic acids
- Exploratory biomarker analysis for enhanced PK/PD studies
- Assay development support in your lab with Quanterix scientists

### A Customized Approach

Work with an experienced team of Quanterix scientists dedicated to sponsored research using Simoa technologies. Working individually with the project sponsor, we create a custom scope of work to help you achieve your research objectives efficiently, cost-effectively, and faster than ever before.



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# Leverage Simoa for PK/PD, Efficacy, Safety, and Target Engagement with the **Highest Possible Sensitivity**<sup>1</sup>

## Custom On-Demand Assay Kit Production

Get access to assay kits not commercially available on the Simoa platform.

The Accelerator Lab builds custom assay kits or specific kit components with sponsor's proprietary antibodies and reagents for use in the sponsor's own facility or in the Accelerator lab according to sponsor defined protocols.

## Proof of Concept or Contract Study Testing

Test sample sets prior to purchase of your own Simoa instrument or run full studies in Quanterix' Accelerator Lab. Avoid the high cost of building a laboratory and have Accelerator run samples quickly and cost-effectively. From small experiments with just a few samples to large clinical studies with thousands of samples, the protocol can be tailored to the sponsor's specific needs.

## Retained Services Contracts (Outsourced FTEs)

Extend your own research teams using Quanterix Retained Services Contracts. Retained Services Contracts (RSCs) commit FTEs and instrument

time for 3-12 month contracts, allowing customers full flexibility in their assay development needs without creating multiple SOWs.

## Best Antibody Pairs

Accelerate homebrew Simoa assays in your lab with Accelerator Antibody Screening.

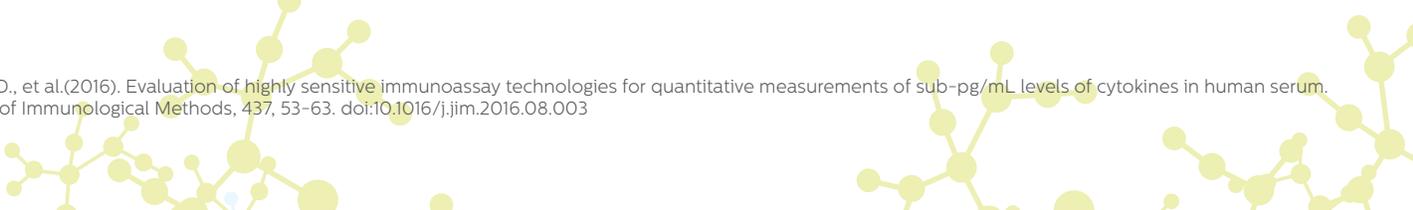
Creating the best assay often necessitates screening large numbers of antibody pairs. Let Accelerator help select the best antibody pairs for a Simoa homebrew singleplex or multiplex assay. We utilize a network of antibody suppliers and will screen different antibody clones to help develop the most suitable assay for the customer.

## Custom Assay Development with Optimization & Validation

Quanterix scientists partner with you to develop your project requirements and assay criteria to transform commercially available or proprietary reagents into a fully validated, ultrasensitive Simoa assay that delivers the highest level of performance.



1. Yeung, D., et al.(2016). Evaluation of highly sensitive immunoassay technologies for quantitative measurements of sub-pg/mL levels of cytokines in human serum. Journal of Immunological Methods, 437, 53-63. doi:10.1016/j.jim.2016.08.003



# Immunoassay Evolution

Accelerating your time to drug approvals through deeper detection than ever before

1970–2000	2000–2014	2014+ simoa
(ng/mL)	(pg/mL)	(fg/mL)

1000s more targets for drug development, with routine measurement and monitoring of efficacy and safety.

## Assay Development Milestones

### Assay Feasibility Testing and Prototype Development

- Identify antibody sources and reference materials
- Antibody screening (includes antibody-flip to evaluate all possible combinations)
- Select the best antibody pair for prototype development

### Assay Optimization

Following development of a prototype assay, Quanterix scientists optimize assays to further improve assay performance prior to sample testing.

The project scope is to define expected outcomes and timelines. Specific project activities may include:

- Further DOE to optimize bead coating, detector labeling, detector antibody and substrate concentrations
- Optimize calibrator/control, bead, detector and sample diluent formulations (salt, detergent, blockers, protein concentration, buffers, pH)
- Optimize spike recovery and serial dilution in final matrix
- Verify LOD in matrix
- Assess analyte levels with research level reagents
- Document assay protocol

## Assay Validation

Following optimization, assays are validated according to sponsored defined requirements.

Specific validation components may include:

- Establish calibration curves with final diluent formulations
- Determine analytical and functional sensitivity and dynamic range
- Precision (intra- and inter-assay)
- Dilutional linearity and parallelism
- Verify LOQ in matrix
- Reagent scale-up for sample testing
- Create protocols for method transfer
- Verification report that captures assay design, specifications and performance data

**The Accelerator Lab has tested 100,000+ samples for over 300 projects, propelling the research of more than 150 companies!**

# ON-SITE TRAINING IN YOUR LAB

## Custom Homebrew Development or Prototype Assays with On-Site Training

- Utilize your own proprietary reagents in combination with the Quanterix Homebrew Assay Development Kit to develop a rapid prototype Simoa assay with improved sensitivity and ease of use compared to ELISA
- In your lab and in only 4 days, establish basic assay conditions for one established antibody pair and estimate the LOD of the prototype Simoa assay
- Option to visit the Accelerator lab to develop a prototype assay with Quanterix and be trained on Simoa assay development best practices

*“The Quanterix Accelerator Lab offers the chance to obtain quick, robust data for assays that would otherwise take time and resources away from other activities in the lab. We value the Accelerator Lab as more of a partner in our quest to develop customized and sensitive assays for project progression.”*

– Jim Messamore | Zoetis

## On-Site Customer Assay Development Training

<b>DAY 1: Intro and conjugation</b>	Introduction to Simoa technology and the HD-1 Analyzer
	Conjugation of beads with capture antibody
	Biotinylation of detector antibody
<b>DAY 2: Initial runs of prototype assay</b>	Evaluation of initial conditions for LOD determination
	Selection of optimal bead coating and biotinylation levels
	Optimize detector antibody and substrate concentrations
<b>DAY 3: Assess matrix and background</b>	Final rounds of assay optimization (e.g. 2-step vs. 3-step, buffers etc.)
	Spike recovery and dilutional linearity
<b>DAY 4: Sample testing</b>	Test a plate of individual samples using optimized prototype conditions

Included in Training: Simoa Homebrew Assay Training Kit (Product code: ACC1001); Simoa Consumables Kit (Product code: 101351)

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# About Quanterix

Quanterix is a company that is digitizing biomarker analysis with the goal of advancing the science of precision health. The company's ultra-sensitive detection solution, Simoa, has the potential to change the way in which healthcare is provided today by giving researchers the ability to closely examine the role of biomarkers in the continuum of health to disease. Quanterix' technology is designed to enable much earlier disease detection, better prognosis, and precise treatment methods to improve the quality of life and longevity of the population for generations to come. The technology is currently being used for research applications in several therapeutic areas, including oncology, neurology, cardiology, inflammation and infectious disease. The company was established in 2007 and is located in Billerica, Massachusetts.

Learn More About Accelerating  
Your Biomarker Research at  
**[www.quanterix.com](http://www.quanterix.com)** or email  
**[info@quanterix.com](mailto:info@quanterix.com)**



Quanterix Corporation  
900 Middlesex Turnpike, Billerica, MA 01821

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