

simOa®



Simoa® Homebrew Custom Assay Development

Unlocking the Power of Ultrasensitive
Biomarker Detection

Quanterix®

Custom Simoa® Immunoassays for Breakthroughs in Discovery and Diagnostics

Quanterix's Homebrew Custom Assay Development is where innovation meets precision.

Experience the flexibility, sensitivity, and simplicity of Simoa® technology as you create custom assays tailored to your research needs and biomarkers of interest. Leveraging your own antibodies and reagents and Quanterix's Homebrew Custom Assay portfolio of products, you're able to rapidly develop a personalized Simoa® immunoassay, allowing you to access greater sensitivity, reproducibility, and more efficient workflows than traditional ELISA methods. With Homebrew Custom Assays, you can usher your research ideas into reality, driving advancements in the fields of neurology, oncology, immunology, and beyond.

Benefit from Custom Assays Built Specifically for You

Our Simoa® Homebrew Custom Assay Development solution is designed to power laboratories worldwide. Discover how you can:

- **Screen & Test Antibodies:** Screen and test a wide range of antibodies, enabling you to select the best candidate for your research.
- **Accelerate Assay Development:** Achieve rapid and high-performance bead and planar immunoassay development, reducing the time needed for assay optimization.
- **Harness Simoa® Technology:** Gain access to ultra-sensitive Simoa® technology, ensuring your assays deliver the gold-standard in sensitivity and precision.
- **Unlock Multiplexing Possibilities:** Explore the opportunities of multiplexing, allowing you to analyze multiple biomarkers simultaneously in your custom Simoa® assay.



The Homebrew Process

Custom Immunoassay Development in Three Stages

1

Reagent Preparation & Initial Screening:

Begin your custom immunoassay development by preparing and evaluating an initial lot of capture beads and detector reagents, benchmarking their sensitivity.

2

Assay Optimization:

Fine-tune your assay for optimal sensitivity and performance. If additional sensitivity is desired, generate and optimize new batches until you achieve the desired levels of performance.

3

Reagent Batch Scale Up:

Once the initial batch meets performance objectives, scale up production to ensure an adequate supply for your research needs. This step ensures consistency and reliability in larger quantities.

Simoa® Bead Homebrew Assay

For use with HD-1/HD-X and SR-X Systems

Provides unprecedented surface chemistry
Advance your research with a bead-based immunoassay, starting with the capture and labeling of analyte using an enzyme conjugate, streptavidin β -galactosidase (SBG). Analyte is captured with beads, and a biotinylated detection antibody is added to create a captured analyte immunosandwich. The immunosandwich is labeled with SBG, with washing and incubation steps depending on your personalized assay protocol. A magnet pelletizes beads after each incubation. After a final wash cycle, the capture beads are resuspended in resorufin β -D-galactopyranoside (RGP) substrate, ready for imaging and analyte quantification on a Simoa® disc.

Simoa® Planar Homebrew Assay

For use with SP-X Imaging and Analysis System™

Our Simoa® Planar Array Homebrew Assay offers universal assay plates with immobilized anchor antibodies in 96 microwells, highly specific for use with Simoa® planar arrays. The kit equips you with everything needed to perform peptide tag labeling for up to 6 capture antibodies and biotinylation for up to 6 detector antibodies.

In the Simoa® planar assay format, the peptide-tagged capture antibody initially binds the plate-bound anchor. The assay then follows the familiar sandwich immunoassay format, with the antigen sandwiched between the peptide-tagged capture. Biotinylated detector antibodies, streptavidin-HRP, and a chemiluminescent HRP substrate signal immunocomplex formation. The signal intensity directly correlates with the analyte's quantity in the standard or sample of interest.

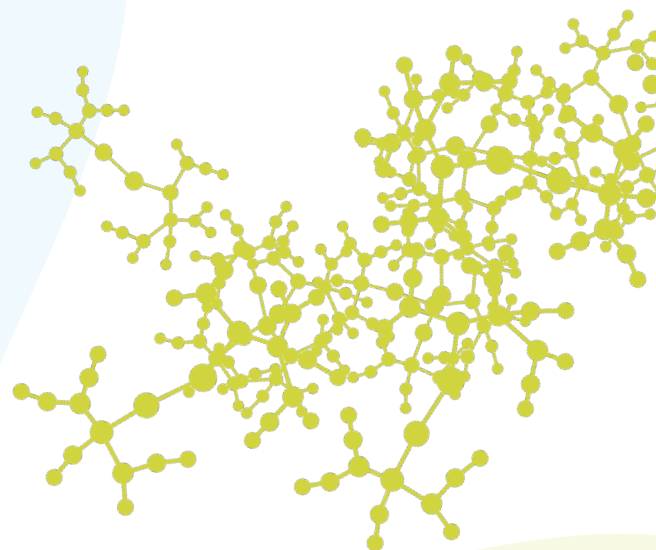
Why Choose Simoa® Homebrew Custom Assay Development?

Custom Solutions, Exceptional Results

Our team of dedicated scientists at Quanterix is committed to helping you maximize the potential of your custom assays. We offer comprehensive training and support:

- **On-Site Training:** Quanterix offers convenient on-site training, bringing expertise directly to you for a seamless experience.
- **Fundamental Immunoassay Insights:** Learn the principles of immunoassay optimization and validation, along with the specifics of Simoa® assay development.
- **Sensitivity Boosting Advice:** Receive guidance and insider tips and tricks to enhance the sensitivity of your custom Simoa® assay.
- **Reagent & Assay Optimization:** Work closely with our experts to collaborate on reagent preparations and customize prototype assay optimization.
- **Explore Multiplexing Potential:** Discover the possibilities of multiplexing for your unique Simoa® assay.

No matter your requirements, Quanterix experts are your partners in streamlining your custom immunoassay development.



Target Any Analyte

Experience Flexibility, Versatility, and High Sensitivity

Flexibility: Customize your study of any analyte using your own antibodies and personalized assay protocols. Our Homebrew kits are compatible with the HD-1, HD-X, SR-X, or SP-X instruments you already own. Don't have an instrument? Our Accelerator Laboratory has you covered!

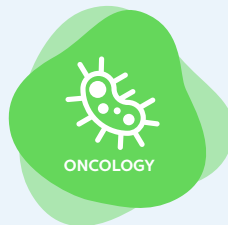
Ultrasensitivity: Harness the ultrasensitive power of Simoa® technology. Expect significant improvements in sensitivity compared to conventional ELISAs.

Multiplex: Measure more than one target simultaneously by customizing Homebrew assays on our bead platform to detect up to 4 analytes in a single sample.

Reveal Breakthroughs from Discovery to Diagnostics

We are partnering with a rapidly growing network of academic researchers, pharmaceutical & biotech partners to drive advancements in neurology, oncology, immunology, infectious disease, cardiology.

Explore our curated catalog of over 500 custom assays highlighting the latest developments achieved by Quanterix customers using Homebrew Custom Assay Development in the fields of:



Contact Us Today

Ready to take your biomarker research to the next level? Unlock the full potential of your research with Quanterix's Simoa® Custom Homebrew Assay Development service. To discuss your specific requirements or to request a quote, contact sales@quanterix.com.

Visit <https://www.quanterix.com/products-and-services/homebrew/> for more information.