

## Case Study



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### Project Overview

Development and implementation of hybrid LBA-LC-MS/MS assays for quantitation of biotherapeutics in plasma.

### The Challenges

- Training a diverse team of scientists in protein quantification
- Developing a selective and highly sensitive MS/MS assay for a biotherapeutic target in plasma
- Choosing the best signature peptides for quantitation
- Optimization of sample enrichment and chromatographic conditions

### The Solution

SCIEX Biologics Quant Platform

- Immunoaffinity enrichment sample prep kit with lab tested protocols
- High sensitivity LC- MS/MS hardware
- Powerful software for peptide MRM optimization
- Scientific training and technical support from SCIEX experts

### The Outcomes

- Workflow training from SCIEX for entire team to accelerate method development
- Method developed for trastuzumab quantitation using three different signature peptides
- Utilized immunoaffinity enrichment as a hybrid LBA-LC/MS/MS approach
- Demonstrated acceptable calibration and QC for immunocaptured samples
- Completed partial validation of trastuzumab biologic in rat plasma
- Continued work on full validation of trastuzumab in human plasma using the hybrid LBA-LC/MS/MS approach

“The 6500 instrument and SCIEX support allows the lab to handle the analysis of a wide range of samples, including peptides, proteins and complex biological molecules, and is a natural progression of our capabilities, to serve the growing market for large molecule analysis.”

#### Type of Organization

Contract research organization (CRO)  
Specializing in protein chemistry, mass spectrometry, and bioinformatics.

#### Goal

Quickly and efficiently move from small molecule to large molecule bioanalysis by LC-MS/MS. Grow SGS projects by supporting biologics bioanalysis studies.

#### SCIEX products

- QTRAP 6500 MS System
- DiscoveryQuant™ Software
- MultiQuant™ Software

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