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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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