

PeptiQuant™ MRM Assay Kits – Human



Researchers in academia and life science industries continue to adopt a targeted, bottom-up MS-based proteomic workflow for candidate biomarker evaluation (from discovery to preclinical validation) and systems biology investigations. These analyses require absolute quantification of surrogate peptides in the sample matrix, a requisite that is best achieved with stable isotope-labeled standards (SIS, commonly peptides) in conjunction with an MRM or PRM detection technique. Although the use of SIS has increased the reliability of LC-MS/MS-based assays, optimal results require properly functioning equipment and a workflow with minimal human error and bias.

To help researchers establish a stable LC-MS/MS platform for bottom-up quantitative proteomics of human plasma, Cambridge Isotope Laboratories, Inc. (CIL) is pleased to offer PeptiQuant™ QC kits from MRM Proteomics Inc. These kits include the **PeptiQuant™ Monthly LC-MS Platform Performance Kit**, the **PeptiQuant™ Daily LC-MS Platform Performance Kit**, and the **PeptiQuant™ Workflow Performance Kit**. These innovative products are used to assess and track the performance of the LC-MS platform in a proteomic workflow in order to highlight any possible issues that will ultimately affect quantitation. Note: these kits are designed for matrix-specific analysis and also are available for use with mouse plasma (see PeptiQuant™ MRM Assay Kits – Mouse data sheet).

CIL is also pleased to offer the **PeptiQuant™ Biomarker Assessment Kit (BAK-76)**, to help researchers screen a multitude of proteins in human plasma samples. This turnkey solution contains the necessary materials and tools to simultaneously measure up to 76 proteins of biological importance in human plasma samples.

Benefits of PeptiQuant™ Kits

- Acquire more precise and accurate quantitative data
- Identify performance deficits related to your equipment
- Pinpoint method-specific issues that need to be addressed
- Diminish inter-laboratory variability
- Improve method transferability

PeptiQuant™ Monthly LC-MS Platform Performance Kit

Tests the effectiveness of your LC-MS platform in protein quantitation. The PeptiQuant™ Monthly LC-MS Platform Performance Kit is used to ensure the researcher is able to generate acceptable levels of quantitation when starting with prespiked, predigested human plasma. Using the reagents in the kit, the researcher can compare the obtained results for 35 different peptides to the “known” reference values. This comparison allows the user to address any issues with the performance of their LC-MS platform.

PeptiQuant™ Workflow Performance Kit

Evaluates the performance of your entire analytical workflow (from denaturation to detection) for human plasma. The PeptiQuant™ Workflow Performance Kit is used to assess the entire proteomic workflow starting with raw human plasma. The user compares the obtained results for 35 different peptides to the “known” reference values that are given in the kit. This comparison allows the user to address any issues with the performance of their LC-MS platform or workflow before running actual samples.

PeptiQuant™ Daily LC-MS Platform Performance Kit

Monitors the reproducibility of your LC-MS platform. Once baseline values are obtained, the PeptiQuant™ Daily LC-MS Platform Performance Kit can track chromatographic and MS performance on a daily basis over time.

PeptiQuant™ Biomarker Assessment Kit (BAK-76)

The PeptiQuant™ Biomarker Assessment Kit is used for quantification of up to 76 different proteins of biological importance in user-supplied plasma samples.

Similar kits
are available for
use with mouse
plasma. Please
inquire.

Cambridge Isotope Laboratories, Inc. is the exclusive distributor of MRM Proteomics Inc.

Assess the suitability of your LC-MS platform!**PeptiQuant™ Monthly LC-MS Platform Performance Kit**

The PeptiQuant™ *Monthly* LC-MS Platform Performance QC kit is used to ensure your LC-MS platform is working properly for quantitative proteomic applications. This kit will allow users to test the effectiveness of their LC-MS platform in terms of LC variability and detection sensitivity and determine quantitative parameters such as lower and upper limits of quantitation, dynamic range, analytical precision, and endogenous concentration. Differences between the obtained experimental results and the reference values given in the kit may reveal the presence of instrument-specific issues that should be addressed prior to running actual samples.

The supplied standards are lyophilized and ready for LC-MRM/MS or LC-PRM/MS analysis upon reconstitution. Users can compare their quantitative results to the “known” protein values provided in the reference kit for performance evaluation.

Each kit contains the following items:

- Predigested human plasma spiked with different concentrations of a balanced SIS peptide mixture covering four orders of magnitude (lyophilized)
- Concentration-balanced SIS peptide mixture (lyophilized)
- Dilute formic acid (solution)
- Protocols and tools on a USB drive*

Catalog No.	Description
LCMSP-M-A6490	LC-MRM/MS PeptiQuant™ Platform Performance Monthly Use Kit for the Agilent 6490
LCMSP-M-A6495	LC-MRM/MS PeptiQuant™ Platform Performance Monthly Use Kit for the Agilent 6495
LCMSP-M-SC4000	LC-MRM/MS PeptiQuant™ Comprehensive Monthly Use Kit for the SCIEX QTRAP® 4000
LCMSP-M-SC5500	LC-MRM/MS PeptiQuant™ Comprehensive Monthly Use Kit for the SCIEX QTRAP® 5500
LCMSP-M-SC6500	LC-MRM/MS PeptiQuant™ Comprehensive Monthly Use Kit for the SCIEX QTRAP® 6500
LCMSP-M-TQEX	LC-PRM/MS PeptiQuant™ Comprehensive Monthly Use Kit for the Thermo Scientific™ Q Exactive™
LCMSP-M-TVANT	LC-MRM/MS PeptiQuant™ Comprehensive Monthly Use Kit for the Thermo Scientific™ TSQ Vantage

Assess your bottom-up workflow!**PeptiQuant™ Workflow Performance Kit**

The PeptiQuant™ Workflow Performance Kit enables the evaluation of a bottom-up proteomic workflow, from sample preparation to MS detection. By using this kit, users can compare their quantitative results (e.g., precision, limit of quantitation, and protein concentration) to the “known” values for the 35 proteins in the supplied human plasma. The kit contains enough reagents to create a seven-point calibration curve. The obtained results may reveal the presence of human error, or method- and/or instrument-specific issues that should be addressed prior to performing the user's quantitative proteomics research of interest. Kits are available for either one, two, or five runs.

Each kit contains the following items:

- Human plasma (solution)
- Trypsin (lyophilized)
- Concentration-balanced SIS peptide mixture (lyophilized)
- Protocols and tools on a USB drive*

Catalog No.	Description
WFPK-A6490	LC-MRM/MS PeptiQuant™ Workflow Performance Kit for the Agilent 6490
WFPK-A6495	LC-MRM/MS PeptiQuant™ Workflow Performance Kit for the Agilent 6495
WFPK-SC4000	LC-MRM/MS PeptiQuant™ Workflow Performance Kit for the SCIEX QTRAP® 4000
WFPK-SC5500	LC-MRM/MS PeptiQuant™ Workflow Performance Kit for the SCIEX QTRAP® 5500
WFPK-SC6500	LC-MRM/MS PeptiQuant™ Workflow Performance Kit for the SCIEX QTRAP® 6500
WFPK-TQEX	LC-PRM/MS PeptiQuant™ Workflow Performance Kit for the Thermo Scientific™ Q Exactive™
WFPK-TVANT	LC-MRM/MS PeptiQuant™ Workflow Performance Kit for the Thermo Scientific™ TSQ Vantage

*Each kit comes with a USB drive that contains a detailed SOP (includes a troubleshooting guide) that is LC-MS platform specific, a platform-dependent acquisition method and acquisition worklist, a platform-dependent quantitative analysis method, Qualis-SIS input files, reference values, and a certificate of analysis for the SIS peptide mixture.

Track your LC-MS performance!**PeptiQuant™ Daily LC-MS Platform Performance Kit**

The PeptiQuant™ Daily LC-MS Platform Performance Kit is used to track the stability of the LC-MS platform. The kit contains a mixture of 35 SIS peptides in buffer to check retention times and predigested human plasma that contains these same 35 SIS peptides spiked at a concentration optimized to check system performance. LC parameters such as retention time and peak width at half height can be tracked, as well as MS parameters, such as the absolute or relative ratios of the unlabeled/labeled peptide responses (i.e., peak areas). Kits are available in one-, two-, or four-week supplies.

Each kit contains the following items:

- Predigested human plasma spiked with a balanced SIS peptide mixture (lyophilized)
- Concentration-balanced SIS peptide mixture (lyophilized)
- Dilute formic acid (solution)
- Protocols and tools on a USB drive*

Catalog No.	Description
LCMSP-D-A6490	LC-MRM/MS PeptiQuant™ Platform Performance Daily Use Kits for the Agilent 6490
LCMSP-D-A6495	LC-MRM/MS PeptiQuant™ Platform Performance Daily Use Kits for the Agilent 6495
LCMSP-D-SC4000	LC-MRM/MS PeptiQuant™ Platform Performance Daily Use Kits for the SCIEX QTRAP® 4000
LCMSP-D-SC5500	LC-MRM/MS PeptiQuant™ Platform Performance Daily Use Kit for the AB SCIEX 5500 QTRAP® System
LCMSP-D-SC6500	LC-MRM/MS PeptiQuant™ Platform Performance Daily Use Kits for the AB SCIEX 6500 QTRAP® System
LCMSP-D-TQEX	LC-PRM/MS PeptiQuant™ Platform Performance Daily Use Kit for the Thermo Scientific™ Q Exactive™
LCMSP-D-TVANT	LC-MRM/MS PeptiQuant™ Platform Performance Daily Use Kit for the Thermo Scientific™ TSQ Vantage

*Each kit comes with a USB drive that contains a detailed SOP (includes a troubleshooting guide) that is LC-MS platform specific, a platform-dependent acquisition method, a platform-dependent quantitative analysis method, reference values, and a certificate of analysis for the SIS peptide mixture.

Custom kits
are available.
Please
inquire.

Performing biomarker discovery or biomarker verification?**PeptiQuant™ Biomarker Assessment Kit (BAK-76)**

The PeptiQuant™ Biomarker Assessment Kit (BAK-76) has been developed for the rapid and precise quantitation of 76 plasma proteins (see figure on right and list on back) for biomarker evaluation and systems biology applications. The BAK-76 provides an easy solution for nonexpert users to rigorously assess the utility and significance of 76 high- to moderate-abundance proteins in various disease states with just 20 µL of human plasma.

Each kit contains the following items:

- Lyophilized SIS peptide mixture for spiking into control plasma sample digest after rehydration and serial dilution
- Lyophilized SIS peptide mixture for spiking into experimental plasma sample digests (n = 20 or 50) after rehydration
- Protocols and tools on a USB drive*

*Each kit comes with a USB drive that contains a detailed SOP (includes a troubleshooting guide) that is LC-MS platform specific, a platform-dependent acquisition method and acquisition worklist, a platform-dependent quantitative analysis method, Qualis-SIS input files (for control and experimental sample analysis), guideline values, and a certificate of analysis for the SIS peptide mixture.

Kits are available for 20 or 50 samples.

Catalog No.	Description
BAK-A6490-76	PeptiQuant™ Biomarker Assessment Kit for 76 proteins using a UHPLC 1290 LC and 6490 QqQ (Agilent)
BAK-A6495-76	PeptiQuant™ Biomarker Assessment Kit for 76 proteins using a UHPLC 1290 LC and 6495 QqQ (Agilent)
BAK-SC400-76	PeptiQuant™ Biomarker Assessment Kit for 76 proteins using a UHPLC 1290 LC (Agilent) and QTRAP® 4000 (SCIEX)

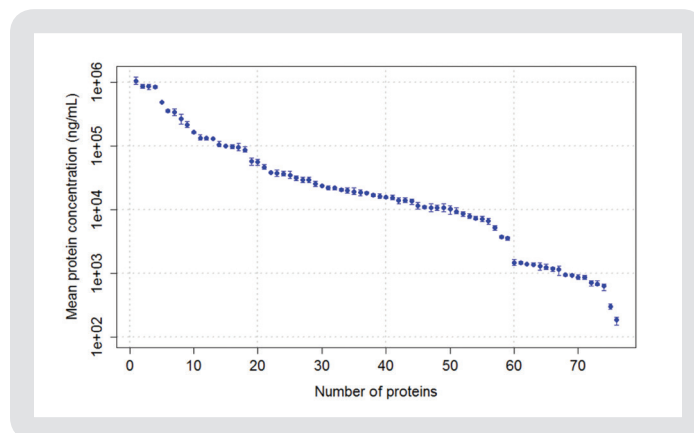


Figure. Quantitation range determined for the 76 proteins in the human plasma BAK-76. Standard deviations shown are from analytical replicate analysis (n = 5).

(continued)

76 Quantotypic Human Proteins

Afamin	Coagulation factor V	Haptoglobin
Alpha-1-antichymotrypsin	Coagulation factor X	Hemoglobin subunit alpha
Alpha-1B-glycoprotein	Coagulation factor XI	Hemopexin
Alpha-2-antiplasmin	Coagulation factor XII	Heparin cofactor 2
Alpha-2-HS-glycoprotein	Complement C1q subcomponent subunit A	Insulin-like growth factor-binding protein complex acid labile subunit
Alpha-2-macroglobulin	Complement C1q subcomponent subunit B	Insulin-like growth factor-binding protein 3
Antithrombin-III	Complement C1q subcomponent subunit C	Inter-alpha-trypsin inhibitor heavy chain H1
Apolipoprotein(a)	Complement C1r subcomponent	Inter-alpha-trypsin inhibitor heavy chain H2
Apolipoprotein A-I	Complement C1s subcomponent	Lipopolysaccharide-binding protein
Apolipoprotein A-IV	Complement C2	Lumican
Apolipoprotein B-100	Complement C3	Neuropilin-2
Apolipoprotein C-II	Complement C4-B	Pigment epithelium-derived factor
Apolipoprotein D	Complement C5	Protein AMBP
Apolipoprotein E	Complement component C8 alpha chain	Prothrombin
Apolipoprotein M	Complement component C8 beta chain	Retinol-binding protein 4
Beta-2-glycoprotein 1	Complement component C9	Serotransferrin
Beta-2-microglobulin	Complement factor B	Serum amyloid A-4 protein
Beta-Ala-His dipeptidase	Complement factor D	Sex hormone-binding globulin
C4b-binding protein alpha chain	Complement factor I	Thyroxine-binding globulin
Carbonic anhydrase 1	Corticosteroid-binding globulin	Transthyretin
Cartilage acidic protein 1	C-reactive protein	Vasorin
CD5 antigen-like	Cystatin-C	Vitamin D-binding protein
cDNA FLJ53327	Fibrinogen alpha chain	Vitamin K-dependent protein C
Ceruloplasmin	Fibronectin	Vitamin K-dependent protein S
Cholinesterase	Fibulin-1	
Clusterin	Gelsolin	

**Custom kits
are available.
Please
inquire.**

Please contact us if you do not see your protein(s) of interest listed above. We have the capability to supply custom kits to suit a variety of needs. If you are interested in using these kits but your LC-MS instrument is not listed, again, please contact us. We are developing kits for other platforms – if a kit for your LC-MS instrument is not yet available, we may be able to supply it as a custom kit.

For more information regarding these products and MRM Proteomics Inc. please visit mrmproteomics.com.

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