

PeptiQuant™ MRM Assay Kits – Mouse



Researchers in academia and life science industries continue to adopt a targeted, bottom-up MS-based proteomic workflow for biomarker discovery and validation. Biomarker validation requires absolute quantification of surrogate peptides in the sample matrix, a requirement that is best achieved with stable isotope-labeled standards (SIS, commonly peptides). Although the use of SIS has increased the reliability of LC-MRM/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-MRM/MS platform for bottom-up quantitative proteomics of mouse plasma, Cambridge Isotope Laboratories, Inc. (CIL) is pleased to offer PeptiQuant™ QC kits from MRM Proteomics Inc. Note that these kits are also available for human plasma (see the PeptiQuant™ MRM Assay Kits – Human data sheet). All mouse PeptiQuant™ kits were developed using the C57BL/6 strain. The QC kits include the **PeptiQuant™ Monthly LC-MS Platform Performance Kit – Mouse**, the **PeptiQuant™ Daily LC-MS Platform Performance Kit – Mouse**, and the **PeptiQuant™ Workflow Performance Kit – Mouse**. These innovative products are used to assess and track the performance of the LC-MS platform in a proteomic workflow, which can help the user pinpoint any possible issues affecting quantitation.

CIL is also pleased to offer the **PeptiQuant™ Biomarker Assessment Kit – Mouse (BAK-81)**, to help researchers screen a multiplexed panel of proteins in mouse plasma. This turnkey solution contains the materials and tools necessary to monitor up to 81 proteins of biological importance in mouse plasma samples.

Benefits of PeptiQuant™ Kits – Mouse

- Acquire more precise and accurate quantitative data
- Identify performance deficits related to your equipment
- Pinpoint method-specific issues that need to be addressed
- Diminish interlaboratory 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 mouse plasma. Using the reagents in the kit, the researcher can compare the obtained results for different peptides to the “known” reference values. This comparison allows the user to address any issues with the performance of their LC-MS system.

PeptiQuant™ Workflow Performance Kit

Evaluates the performance of your entire analytical workflow (from denaturation to detection) for mouse plasma analysis. The PeptiQuant™ Workflow Performance Kit is used to assess the entire proteomic workflow starting with raw mouse plasma. The user compares the obtained results for 34 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-81)

The PeptiQuant™ Biomarker Assessment Kit is used for quantification of up to 81 different proteins of biological importance in user-supplied mouse plasma.

Similar kits
are available for
use with human
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 – Mouse**

The PeptiQuant™ Monthly Use Kit – Mouse, developed using the C57BL/6 mouse strain, was designed to evaluate if the performance of your LC-MS platform will meet the requirements of your quantitative proteomics application. This kit will allow users to test the effectiveness of their LC-MS platform in terms of LC variability and detection sensitivity. Additionally, the PeptiQuant™ Monthly Use Kit – Mouse allows the user to monitor various quantitative parameters such as limits of quantitation, dynamic range, precision, and endogenous concentration. The use of this 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 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:

- Six vials containing lyophilized mouse plasma digests that have been spiked with different concentrations of a balanced SIS peptide mixture covering two orders of magnitude
- Lyophilized SIS peptide mixture in buffer
- Dilute formic acid (solution)
- Protocols and tools on a USB drive*

Catalog No.	Description
M-LCMSP-M-A6490	LC-MRM/MS Mouse PeptiQuant™ Comprehensive Monthly Use Kit for the Agilent 6490
M-LCMSP-M-A6495	LC-MRM/MS Mouse PeptiQuant™ Comprehensive Monthly Use Kit for the Agilent 6495

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

The PeptiQuant™ Workflow Performance Kit – Mouse enables the evaluation of a bottom-up proteomic workflow, utilizing plasma from the C57BL/6 mouse strain. 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 34 proteins in the supplied mouse plasma (see figure on next page). Users can generate a six-point curve over a 200-fold concentration range. The analysis of the curve prepared with the PeptiQuant™ Workflow Performance Kit – Mouse may identify 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.

Each kit contains the following items:

- Neat mouse plasma (solution)
- Lyophilized trypsin
- Lyophilized SIS peptide mixture
- Protocols and tools on a USB drive*

Kits are available for one, two, or five runs.

Catalog No.	Description
M-WFPK-A6490	LC-MRM/MS Mouse PeptiQuant™ Workflow Performance Kit for the Agilent 6490
M-WFPK-A6495	LC-MRM/MS Mouse PeptiQuant™ Workflow Performance Kit for the Agilent 6495

*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 workflow, 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 – Mouse**

The PeptiQuant™ Daily LC-MS Platform Performance Kit – Mouse was developed using the C57BL/6 mouse strain. The mixture of 34 SIS peptides was designed to monitor the stability of the LC-MS platform. With the PeptiQuant™ Daily LC-MS Platform Performance Kit – Mouse, retention times and peak width at half height can be monitored to determine the efficiency of the LC, while absolute/relative responses (i.e., peak areas) of the endogenous and synthetic peptides can be tracked to evaluate your mass spectrometer's performance.

Kits are available in one-, two-, or four-week supplies.

Catalog No.	Description
M-LCMSP-D-A6490	LC-MRM/MS Mouse PeptiQuant™ Platform Performance Daily Use Kits for the Agilent 6490
M-LCMSP-D-A6495	LC-MRM/MS Mouse PeptiQuant™ Platform Performance Daily Use Kits for the Agilent 6495

*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 – Mouse (BAK-81)**

The PeptiQuant™ Biomarker Assessment Kit – Mouse (BAK-81) has been developed for the rapid and precise quantitation of 81 mouse plasma proteins (see figure on right and list on back), valuable in molecular phenotyping and systems biology investigations. The panel of 81 high- to moderate-abundance proteins, using 101 interference-free peptides, allows for the rapid assessment of these biomarkers in the various disease states of genetically engineered mice models. The Mouse PeptiQuant™ Biomarker Assessment Kit for 81 proteins was developed using the C57BL/6 mouse strain.

Each kit contains the following items:

- Lyophilized SIS peptide mixture for spiking into your plasma control sample digests after rehydration and serial dilution
- Lyophilized SIS peptide mix for spiking into experimental 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.

Each kit contains the following items:

- Predigested, lyophilized mouse plasma that has been spiked with SIS peptides
- Lyophilized SIS peptide mixture in buffer
- Dilute formic acid (solution)
- Protocols and tools on a USB drive*

Kits are available for 20 or 50 samples.

Catalog No.	Description
M-BAK-A6490-81	Mouse PeptiQuant™ Biomarker Assessment Kit for 81 proteins using the Agilent 6490
M-BAK-A6495-81	Mouse PeptiQuant™ Biomarker Assessment Kit for 81 proteins using the Agilent 6495

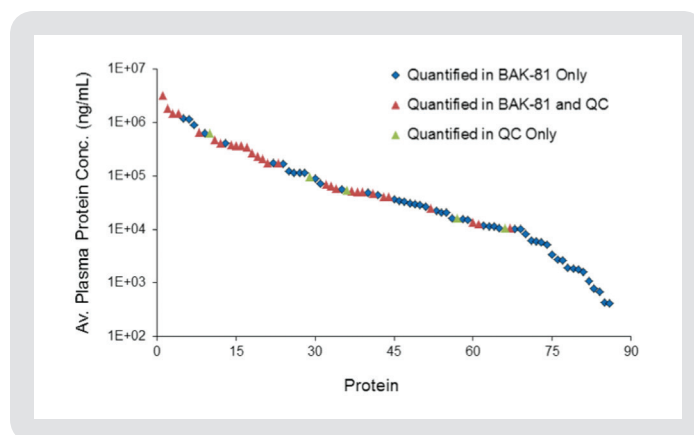


Figure. Quantitative range determined for the target proteins in the mouse plasma QC and BAK-81.

(continued)

81 Quantifiable Proteins

Adiponectin	Complement C1q subcomponent subunit B	Insulin-like growth factor-binding protein complex acid labile subunit
Afamin	Complement C1q subcomponent subunit C	Inter-alpha-trypsin inhibitor heavy chain H2
Alpha-1-acid glycoprotein 1	Complement C1s-A subcomponent	Interleukin-1 receptor accessory protein
Alpha-1-acid glycoprotein 2	Complement C2	Lumican
Alpha-2-antiplasmin	Complement C3	<i>N</i> -acetylmuramoyl-L-alanine amidase
Angiotensinogen	Complement C4-B	Peroxiredoxin-2
Antithrombin-III	Complement component C8 beta chain	Phosphatidylcholine-sterol acyltransferase
Apolipoprotein A-II	Complement component C8 gamma chain	Phospholipid transfer protein
Apolipoprotein A-IV	Complement factor H	Plasma kallikrein
Apolipoprotein B-100	Complement factor I	Plasma protease C1 inhibitor
Apolipoprotein C-I	Corticosteroid-binding globulin	Platelet factor 4
Apolipoprotein C-IV	C-reactive protein	Platelet glycoprotein Ib alpha chain
Apolipoprotein D	EGF-containing fibulin-like extracellular matrix protein 1	Proteasome subunit alpha type-1
Apolipoprotein E	Extracellular superoxide dismutase [Cu-Zn]	Proteasome subunit alpha type-4
Apolipoprotein M	Fetuin-B	Proteasome subunit beta type-1
Cadherin-5	Fibrinogen beta chain	Proteasome subunit beta type-4
Carbonic anhydrase 2	Fibrinogen gamma chain	Protein AMBP
Carboxypeptidase B2	Fibronectin	Protein Z-dependent protease inhibitor
Carboxypeptidase N subunit 2	Fructose-bisphosphate aldolase A	Prothrombin
Carboxypeptidase Q	Gamma-glutamyl hydrolase	Serotransferrin
CD5 antigen-like	Gelsolin	Serum amyloid P-component
Ceruloplasmin	H-2 class I histocompatibility antigen	Serum paraoxonase/arylesterase 1
Clusterin	Haptoglobin	Sulfhydryl oxidase 1
Coagulation factor IX	Hemopexin	Transthyretin
Coagulation factor V	Heparin cofactor 2	Vitamin K-dependent protein C
Coagulation factor XII	Histidine-rich glycoprotein	Zinc-alpha-2-glycoprotein
Coagulation factor XIII A chain	Insulin-like growth factor-binding protein 3	
Complement C1q subcomponent subunit A		

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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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