

Agilent Multiple Affinity Removal System (MARS) and Proteomics Reagents

Applications

- LC/MS analysis of biological samples
- Preparation for electrophoretic analysis
- Sample preparation for biomarker discovery
- Instrument and workflow validation
- Cost-effective immunodepletion
- Sample desalting, concentration, and fractionation

Introduction

In order to more easily isolate and identify proteins in biological samples, such as serum, plasma, and cerebro-spinal fluid (CSF), the Agilent Multiple Affinity Removal System is designed to chromatographically eliminate interfering high-abundance proteins from biological samples. Removal of these abundant proteins improves the subsequent LC/MS and electrophoretic analysis of the sample by effectively expanding the dynamic range.

For sample fractionation and desalting, the Agilent mRP-C18 High-Recovery Protein column is designed to simultaneously desalt, concentrate, and fractionate in one easy step with extremely high recovery of samples as compared to conventional RP HPLC columns that are fully compatible with LC/MS analysis.

In addition, validated reagents for sample preparation in biomarker discovery and other proteomics applications are also available, including a standard for proteomic workflows. For your convenience, these reagents are fully compatible with Agilent LC/MS methods and require no additional sample pretreatments.



Figure 1. Multiple Affinity Removal column and spin cartridges.

Immunodepletion columns and cartridges

Multiple Affinity Removal System columns and spin cartridges

The Human 14 (Hu-14) columns and cartridges can be used to eliminate 14 of the highest abundance proteins in plasma or serum, removing approximately 94% of the proteins (see Figure 2) that can interfere with your analysis. They are available in both HPLC column and spin cartridge formats for your convenience. If you prefer removal of fewer high abundance proteins, we also offer columns and cartridges for removing albumin alone, the top 2, 6, or 7 human proteins, or the top 3 mouse proteins. In addition, since they can be used for more than 200 runs, they provide cost-effective immunodepletion. The resulting samples produced are compatible with the Agilent 3100 Offgel Fractionator and Macroporous Reverse Phase-C18 column.

Multiple Affinity Removal System products

Columns

Product Description	AGL Part #	VWR Cat. No.
Hu-14, 4.6 x 50 mm	5188-6557	76193-736
Hu-14, 4.6 x 100 mm	5188-6558	76193-636
Hu-14, 10 x 100 mm	5188-6559	76204-878
Hu-7, 4.6 x 50 mm	5188-6409	76204-886
Hu-7, 4.6 x 100 mm	5188-6410	76204-884
Hu-7, 10 x 100 mm	5188-6411	76204-882
Hu-6, 4.6 x 50 mm	5185-5984	76204-932
Hu-6, 4.6 x 100 mm	5185-5985	76204-930
Hu-6HC, 4.6 x 50 mm	5188-5332	76204-896
Hu-6HC, 4.6 x 100 mm	5188-5333	76204-894
Hu-6HC, 10 x 100 mm	5188-5336	76204-892
Hu-2, 4.6 x 50 mm	5188-8826	97066-658
Hu-Albumin, 4.6 x 50 mm	5188-6562	76204-876
Ms-3, 4.6 x 50 mm	5188-5217	76204-858
Ms-3, 4.6 x 100 mm	5188-5218	76204-856

Spin Cartridges

Product Description	AGL Part #	VWR Cat. No.
Hu-14	5188-6560	97003-386
Hu-7	5188-6408	76204-888
Hu-6	5188-5230	76204-916
Hu-6HC	5188-5341	76204-890
Hu-2	5188-8825	97066-656
Hu-Albumin	5188-5334	97066-652
Ms-3	5188-5289	76204-898

Multiple Affinity Removal System Ancillary products

Buffers and Accessories

Product Description	AGL Part #	VWR Cat. No.
Buffer A, 1L	5185-5987	76204-926
Buffer B, 1L	5185-5988	76204-924
Column Starter Reagent Kit	5185-5986	76204-928
Cartridge Starter Reagent Kit	5188-5254	76204-900
Human Serum Albumin (HSA) Standard	5185-5989	76204-922
Spin Filters	5185-5990	76204-920
Concentrators	5185-5991	76204-918

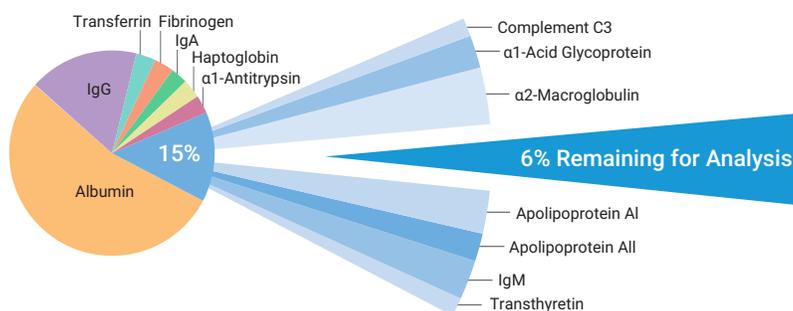


Figure 2. Illustration of high abundance proteins that can be removed by Agilent Multiple Affinity Removal columns and spin cartridges.

Custom configurations

Custom column and bioreagent configurations are available for all products described here. For more information, please contact us at www.agilent.com/genomics/custom_manufacturing.

Protein fractionation columns

mRP-C18 high-recovery protein fractionation and desalting HPLC columns

These high performance Macroporous Reversed-Phase C18 columns recover >98% of proteins and peptides. They offer an easy, automated one-step solution by simultaneously desalting, concentrating, and fractionating samples. The Agilent mRP High-Recovery Protein column can be used with a wide variety of sample types, including whole-cell lysates, lipid rafts, and membrane preparations. When used with membrane protein fractions, they achieve >95% recovery.

mRP-C18 columns

Product Description	AGL Part #	VWR Cat. No.
mRP 0.5 x 100 mm column	5188-6510	76204-880
mRP 4.6 x 50 mm column	5188-5231	76204-914

Proteomics reagents for LC/MS analysis

Agilent Complex Proteomics Standard and Proteomics Grade Trypsin are essential tools for protein characterization and shotgun proteomics applications. These validated reagents are compatible with Agilent LC/MS methods and require no additional sample pretreatments.

Complex proteomics standard

- Ideal for workflow validation over time and across multiple instruments
- Useful for comparing methods and equipment between laboratories
- Soluble *Pfu* protein extract mimics high complexity and diversity of samples typically used for biomarker discovery and other proteomics studies
- Contains over 1,500 proteins representing a wide range of sizes and properties

Proteomics grade trypsin

- High specificity and purity reduces autolysis and ensures consistent performance
- Treated with TPCK to prevent generation of autolytic peptide fragments
- Qualified for use with Agilent 1260 Infinity HPLC-Chip/MS and 6000 Series LC/MS systems
- Includes protocols for in-solution and in-gel digestion

Proteomics reagents

Product Description	AGL Part #	VWR Cat. No.
Complex Proteomics Standard	400510	97066-398
Trypsin	204310	97066-316

Agilent products sold through:



800 932 5000 | VWR.COM

Prices and product details are current when published and subject to change without notice. | Certain products may be limited by federal, state, provincial, or local regulations. | VWR, part of Avantor, makes no claims or warranties concerning sustainable/green products. Any claims concerning sustainable/green products are the sole claims of the manufacturer and not those of VWR International, LLC and/or Avantor, Inc. or affiliates. All prices are in US dollars unless otherwise noted. Offers valid in US and Canada, void where prohibited by law or company policy, while supplies last. | Trademarks are owned by Avantor, Inc. or its affiliates, unless otherwise noted. | Visit vwr.com to view our privacy policy, trademark owners, and additional disclaimers. © 2019 Avantor, Inc. All rights reserved.

0119 Lit. No. 010098W

For Research Use Only. Not for use in diagnostic procedures.

This information is subject to change without notice.

© Agilent Technologies, Inc. 2018
Printed in the USA, November, 2018
5994-0158EN