

# A Higher Level of Sensitivity. Every Time.

High-purity UHPLC-MS LiChrosolv® solvents  
for rapid and reliable results.

**Because our high standards match yours**

**[SigmaAldrich.com/UHPLC-MS](http://SigmaAldrich.com/UHPLC-MS)**



## Add more confidence to your UHPLC-MS analysis

For your highly sensitive UHPLC-MS analyses, how can you reduce noise and additional signals to a minimum? Our new high-end UHPLC-MS solvents raise the standard for low baseline noise and clean mass spectra.

Our new range of advanced UHPLC-MS LiChrosolv® solvents have been developed to exceed all expectations, providing rapid and reliable results in both ESI/APCI positive and negative ionization modes.

Thanks to their lowest level of background noise and ion suppression, this quality ensures the optimum ionization efficiency to enable the highest sensitivity. With these features, use of these solvents can also help to extend column lifetime.

To ensure that you have confidence in your results, we specify the lowest possible limit of polyethylene glycol (PEG) impurities in all our UHPLC-MS solvents.

Our advanced UHPLC-MS LiChrosolv® solvents have been designed to meet the highest requirements of UHPLC-MS in research and quality control, including proteomics and metabolomics as well as environmental, clinical, food or industrial testing applications.

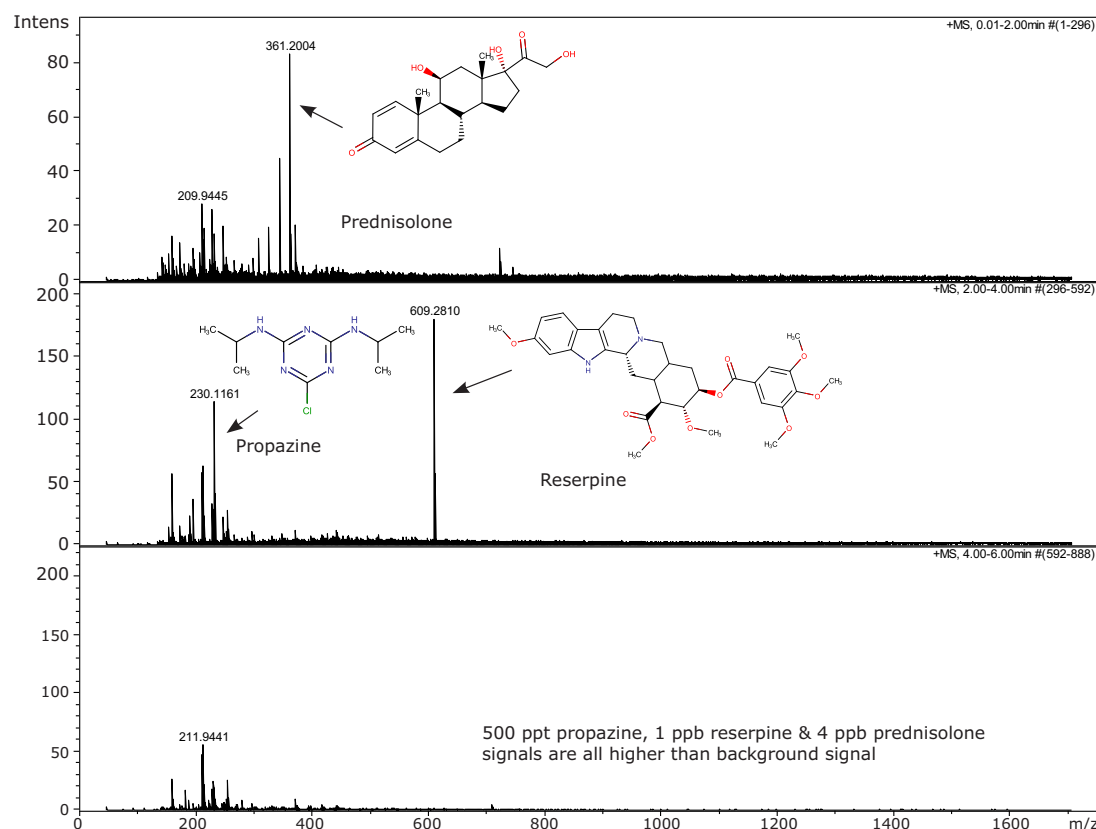
A new standard for the unlimited application of ultra-high-performance chromatography has been set.

### Features & Benefits

- Suitability tested and specified for UHPLC-MS and UHPLC-UV: for analytical flexibility
- Specified quality in positive and negative ESI and APCI MS for lowest detection limits and confidence in analyses in all important MS modes (**test 1**)
  - ESI/APCI (+) < 2 ppb
  - ESI/APCI (-) < 10 ppb
- Lowest impurity profile: for interference-free baselines (**test 2**)
- Microfiltration through 0.2 µm filter (**test 3**)
  - prolonged lifetime of filters and mechanical parts in HPLC systems
  - reduced risk of column clogging
- Packaged in borosilicate glass bottles: minimized contamination with metal ions
- Lowest levels of trace metal impurities: for minimized metal ion adduct formation
  - <5ppb
- Lowest level of **polyethylene glycol (PEG)** impurities in our entire UHPLC-MS solvent lineup to give you confidence in your results (PEG S/N signal-to-noise-ratio < 50)

### Test 1

UHPLC-MS gradient run with LiChrosolv® acetonitrile for UHPLC-MS shows a clear detection and identification of 1 ppb reserpine, 500 ppt propazine and 4 ppb prednisolone with very low background interferences.



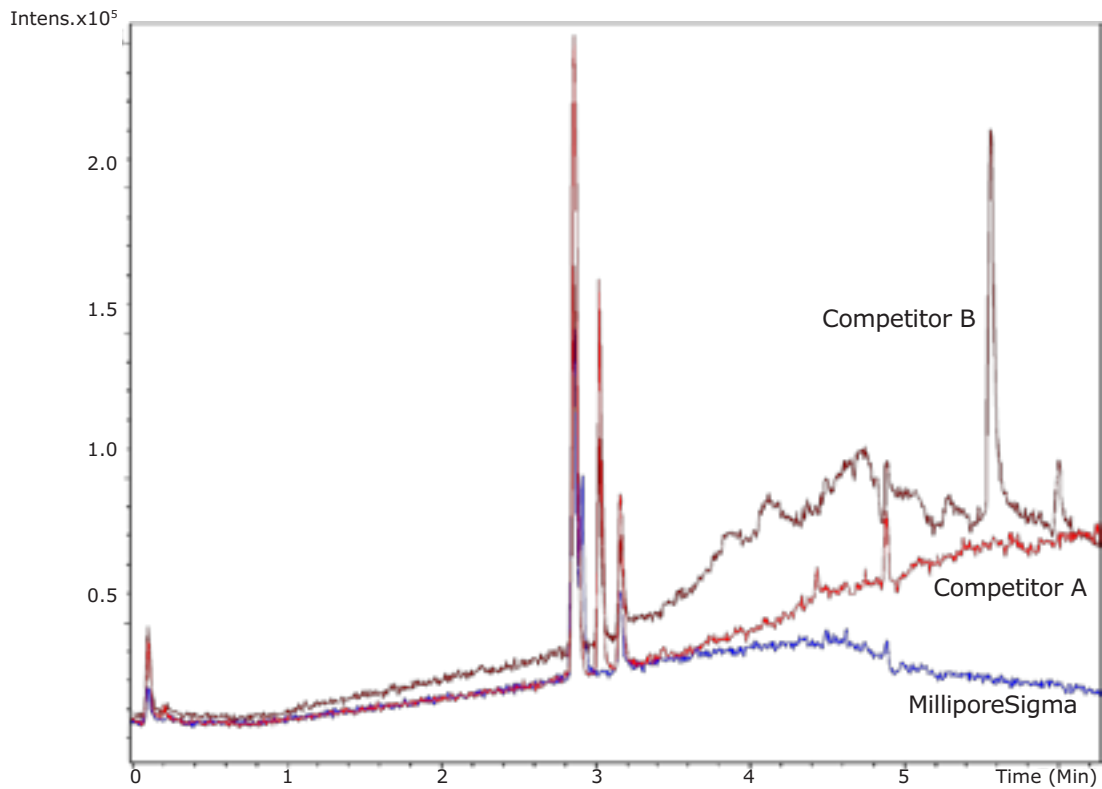
#### Test conditions:

UHPLC-MS Gradient run with LiChrosolv® Acetonitrile for UPLC-MS and LiChrosolv® Water for UHPLC-MS from 2% Acetonitrile to 98% Acetonitrile. UHPLC column: Supelco Ascentis® Express C18, 2 µm, 2.1 x 30 mm. MS instrument type: Q-TOF. Detection: ESI (+).

## Test 2

Comparison of LiChrosolv® Methanol for UHPLC-MS (blue line) with two competitor UHPLC-MS products.

LiChrosolv® Methanol for UHPLC-MS shows a flat baseline and by far the lowest impurity profile compared to the competition. Both competitor's high purity UHPLC-MS products A and B show a baseline drift and significant impurity peaks.



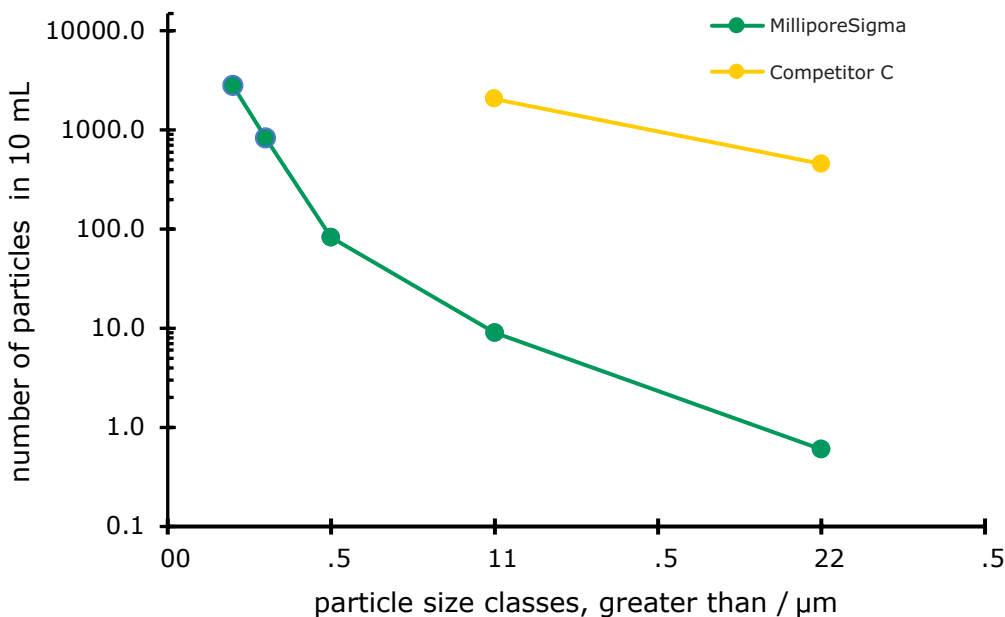
### Test conditions:

UHPLC-MS Gradient run with LiChrosolv® Methanol for UHPLC-MS and LiChrosolv® Water for UHPLC-MS from 2% Methanol to 98% Methanol. UHPLC column: Supelco Ascentis® Express C18, 2  $\mu\text{m}$ , 2.1 x 30 mm. Detection: ToF-MS (ESI(+)).

## Test 3

Measurement of particle concentrations in LiChrosolv® acetonitrile for UHPLC-MS and a competitor UHPLC-MS grade solvent. The particle concentrations are divided into different particle size ranges. Competitor C displays significantly higher particle concentrations

in all analyzed particle size ranges. Low particle concentrations prolong the lifetime of filters and mechanical parts in HPLC systems and reduce danger of column clogging. High particle concentrations might also result in detection of impurities.



### Test conditions:

The solvent samples were measured five times each by a single particle counting system (RION KS-40BF) based on light diffraction.

Solvent	Supplier	> 0.2 μm Particles/10 mL	> 0.3 μm Particles/10 mL	> 0.5 μm Particles/10 mL	> 1 μm Particles/10 mL	> 2 μm Particles/10 mL
Acetonitrile	MilliporeSigma	2 784 ± 58	828 ± 15	83 ± 7	9 ± 3.2	0.6 ± 0.49
	Competitor C	> 12 000	> 12 000	> 12 000	2 054 ± 52	456 ± 19

## Ordering Information

Description	Pack Size	Cat. No.
Acetonitrile for UHPLC-MS LiChrosolv®	1 L	1.03725.1002
	2 L	1.03725.2002
Methanol for UHPLC-MS LiChrosolv®	1 L	1.03726.1002
	2 L	1.03726.2002
Water for UHPLC-MS LiChrosolv®	1 L	1.03728.1002
	2 L	1.03728.2002

Visit: [SigmaAldrich.com/UHPLC-MS](https://SigmaAldrich.com/UHPLC-MS) for more information

MilliporeSigma  
400 Summit Drive  
Burlington, MA 01803

## To place an order or receive technical assistance

Order/Customer Service: [SigmaAldrich.com/order](https://SigmaAldrich.com/order)  
 Technical Service: [SigmaAldrich.com/techservice](https://SigmaAldrich.com/techservice)  
 Safety-related Information: [SigmaAldrich.com/safetycenter](https://SigmaAldrich.com/safetycenter)

[SigmaAldrich.com](https://SigmaAldrich.com)

© 2018 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved. MilliporeSigma, the vibrant M, LiChrosolv, and Ascentis are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. All other trademarks are the property of their respective owners. Detailed information on trademarks is available via publicly accessible resources.

Lit. No. MS\_FL2705EN Ver. 1.0  
2018-15140  
12/2018

