

## Atorvastatin Separation using Verex™ Filter Vials by HPLC using Lux® Chiral Cellulose Columns

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### Overview

Samples are prepared by a variety of methods, which can influence results by affecting the overall sample injected into the system. Samples that are not prepared effectively can lead to a reduction in sample reproducibility and chromatographic efficiency with decreased column lifetimes. Inappropriate choice of devices for sample preparation could cause binding of analytes of interest and also cause the release of extractables into the sample. This could influence the quality and reproducibility of the results obtained.

In this application, Atorvastatin standards were prepared and filtered using Verex Filter Vials. Samples were analyzed by HPLC-UV to determine if there was a loss of sample by using the Verex Filter Vials. The Atorvastatin standards without a filtration device showed similar results to the filtered standards using the Verex Filter Vials. This would indicate no extractables and lack of sample adsorption to the membrane or the vial.

### Sample Preparation

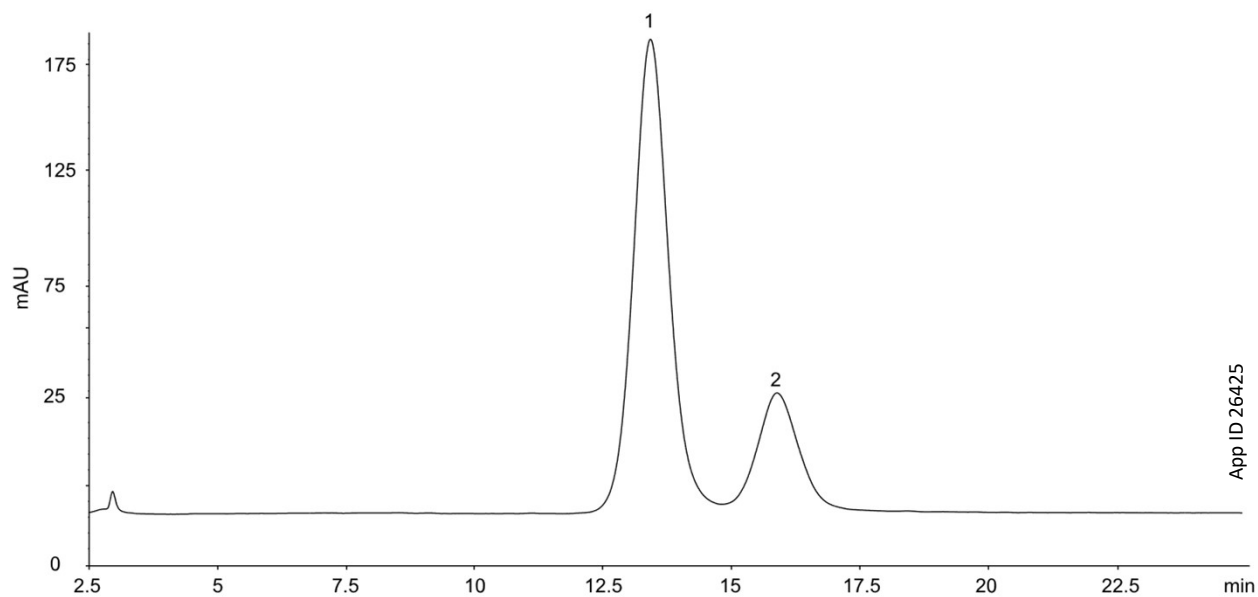
<b>Make:</b>	1 mg/mL concentrations of each Atorvastatin Calcium Trihydrate CRS and Atorvastatin Impurity E using methanol
<b>Mix:</b>	Standards at a ratio of 1:1 or 5:1, CRS:Impurity E
<b>Load:</b>	400 µL of standard mixes into Verex Filter Vial 0.45 µm, NY <a href="#">ARO-F207-12</a>
<b>Inject:</b>	3 µL final eluate onto HPLC-UV

### LC-UV Conditions

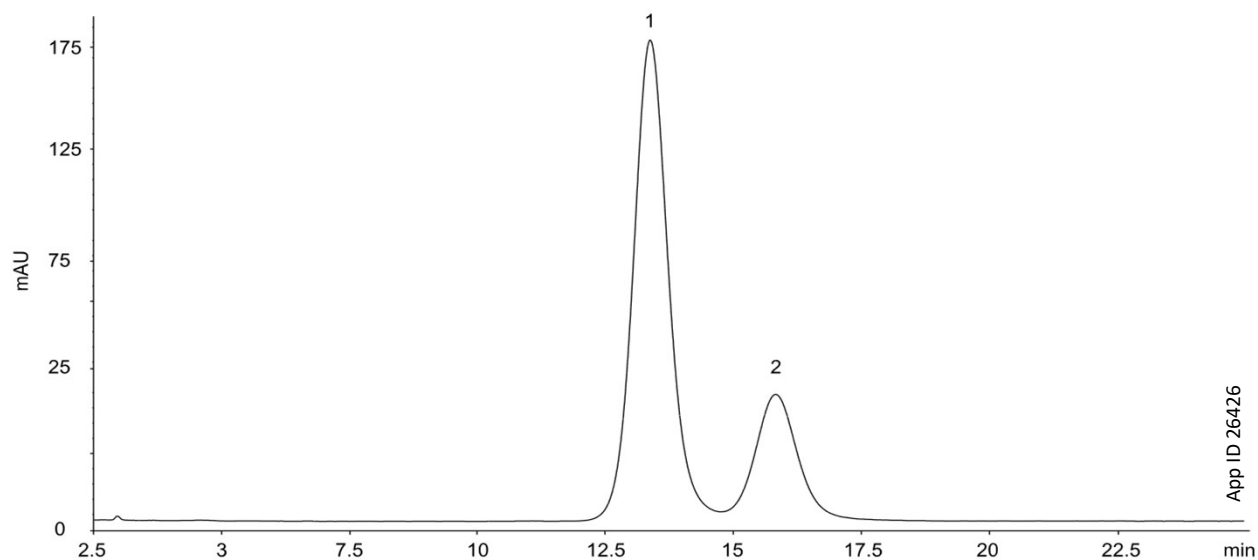
<b>Column:</b>	Lux 5 µm Cellulose-2				
<b>Dimension:</b>	100 x 4.6 mm				
<b>Part No.:</b>	<a href="#">00D-4457-E0</a>				
<b>Pressure (bar):</b>	108				
<b>Mobile Phase</b>	A: 0.1 % TFA in Water B: 0.1 % TFA in Acetonitrile				
<b>Gradient:</b>	<table border="1"> <thead> <tr> <th>Time (min)</th> <th>% B</th> </tr> </thead> <tbody> <tr> <td>25</td> <td>35</td> </tr> </tbody> </table>	Time (min)	% B	25	35
Time (min)	% B				
25	35				
<b>Flow Rate:</b>	1000 µL/min				
<b>Temperature:</b>	Ambient				
<b>Detection:</b>	UV @ 210 nm				
<b>Injection Volume:</b>	3 µL				
<b>Instrument:</b>	Agilent® 1100 HPLC with Quaternary Pump				



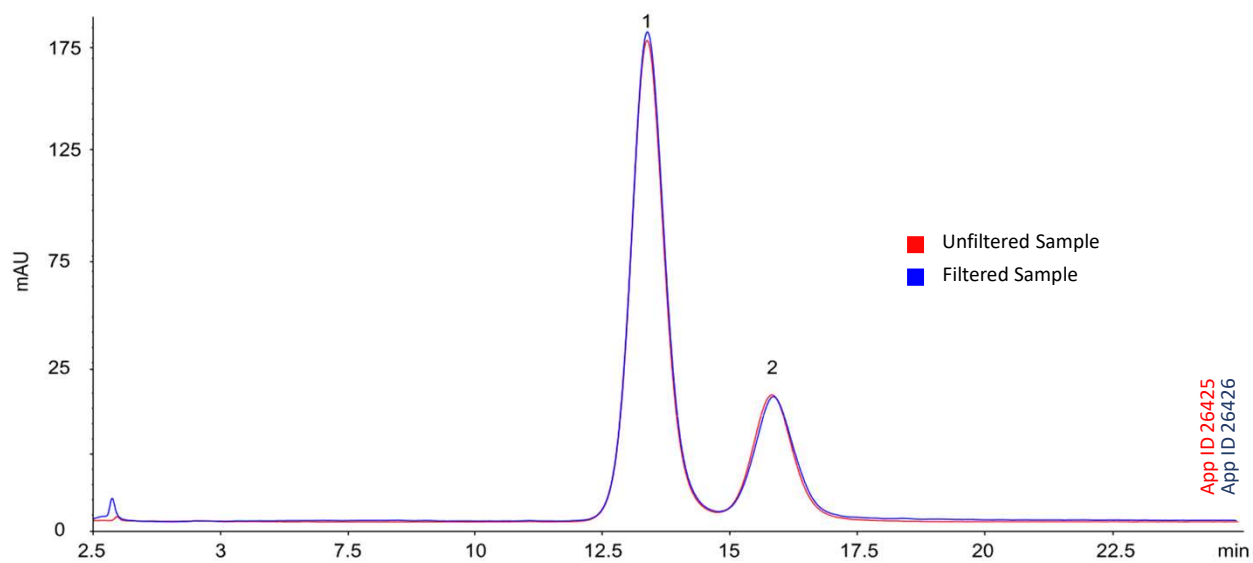
**Figure 1.** Lux 5 Cellulose-2 separation of Chiral Atorvastatin without the use of a Verex Filter Vial.



**Figure 2.** Lux 5 Cellulose-2 separation of Chiral Atorvastatin with the use of a Verex Filter Vial.



**Figure 3.** Overlay of unfiltered and filtered samples.



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