

HPLC-UV Method for the Determination of Telmisartan Using a Synchronis C8 1.7 μm Column

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Key Words

- Telmisartan
- Synchronis C8
- Hypertension
- High speed

Abstract

This application note demonstrates the use of the Thermo Scientific Synchronis C8 1.7 μm column for the determination of telmisartan by HPLC-UV.

Introduction

One of the key goals for the chromatographer is to achieve a consistent, reproducible separation. The selection of a highly reproducible HPLC column is essential if this goal is to be attained. The SynchronisTM column range has been engineered to provide exceptional reproducibility due to its highly pure, high surface area silica, dense bonding and double endcapping, all controlled and characterized through the use of rigorous testing.

Telmisartan is an angiotension II receptor antagonist used for the treatment of hypertension.

This application note demonstrates the successful analysis of telmisartan using a Synchronis C8 1.7 μm column.



Experimental Details

Chemicals and Reagents	Part Number
Fisher Scientific HPLC grade water	W/0106/17
Fisher Scientific HPLC grade ammonium acetate	A/3446/50
Fisher Scientific HPLC grade acetonitrile	A/0626/17
Telmisartan purchased from Sigma Aldrich	

Sample Handling Equipment

NSC Mass Spec Certified 2 mL clear vial with blue bonded PTFE silicone cap	MSCERT4000-34W
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Separation Conditions	Part Number
Instrumentation:	Thermo Scientific Accela UHPLC system
Column:	Synchronis C8 1.7 μm , 50 x 2.1 mm 97202-052130
Mobile phase:	65:35 (v/v) 20 mM ammonium acetate/acetonitrile
Flow rate:	0.2 mL/min
Column temperature:	25 °C
Injection details:	1 μL partial loop
Injection wash solvent:	65:35 (v/v) 20 mM ammonium acetate/acetonitrile
UV detector wavelength:	230 nm
Backpressure:	215 bar

Solutions

Working standard contained 20 $\mu\text{g/mL}$ of telmisartan in water

Results

The analysis was performed on a Synchronis C8 1.7 μm , 50 x 2.1 mm column. As shown in Figure 1, telmisartan was analyzed in less than 3 minutes. Table 1 shows the results from six replicate injections.

	Telmisartan
Retention time (minutes)	1.98
%RSD on retention time	0.3
Asymmetry	1.39
%RSD on asymmetry	0.4

Table 1: Retention time and asymmetry results for telmisartan

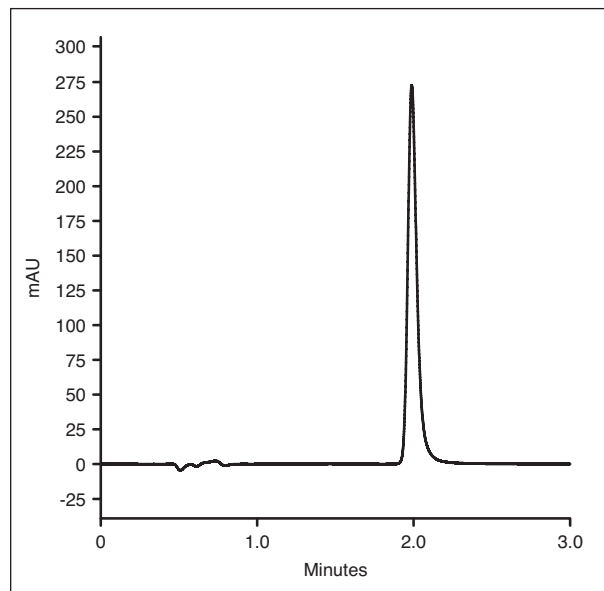


Figure 1: Chromatogram of telmisartan analyzed using a Synchronis C8 1.7 μm , 50 x 2.1 mm column

Conclusions

Replicate injections of telmisartan showed that Synchronis C8 1.7 μm produced stable and reproducible results. This demonstrates that Synchronis C8 is an excellent choice of column for the rapid analysis of telmisartan.

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