# MICROSOLV

Atorvastatin Tablets Analyzed with HPLC - AppNote

A Robust Method for Analysis of a Hypercholesterolemia Medication

A robust and reproducible Method has been developed for this Cholesterol medication. A commercially available Drug Product was used as well as a reference Standard. The data below illustrates how the Standards and Drug Product share excellent peak shape using this easy Method.
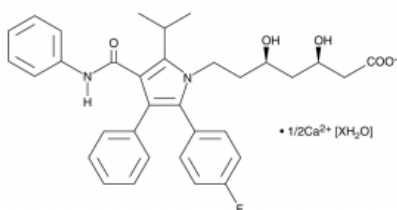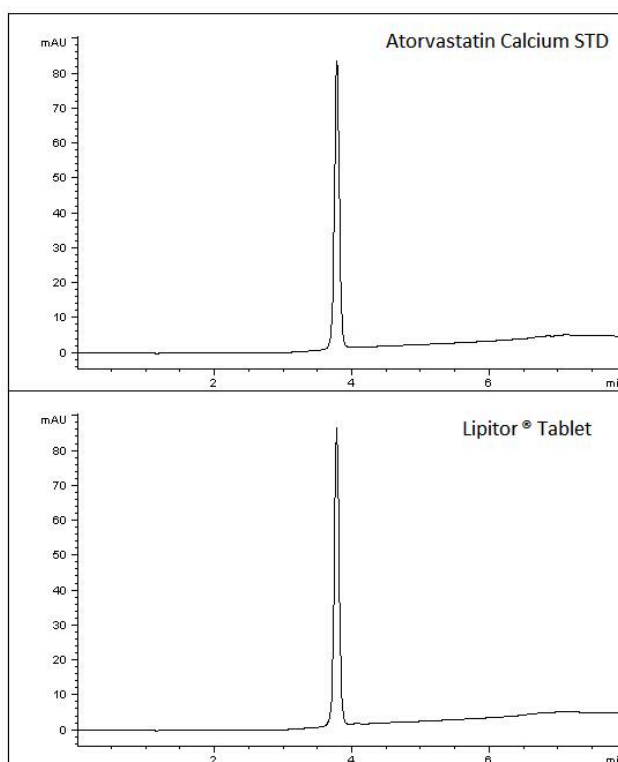
Peak

1. Top Chromatogram – Atorvastatin Calcium Standard

2. Bottom Chromatogram – Atorvastatin API from Tablets - Generic

Method Conditions
Column: Cogent Phenyl Hydride™, 4µm, 100Å
Catalog No.: 69020-10P
Dimensions: 4.6mm x 100mm
Mobile Phase:
  A: DI Water with 0.1% Formic Acid
  B: Acetonitrile with 0.1% Formic Acid

Time (minutes)	%B
0	50
1	50
5	85
6	85
7	50
8	50

Injection vol.: 2µL

Flow rate: 1.0mL / minute

Detection: UV @ 254nm

Diluent: 50:50 DI Water / Acetonitrile with 0.1% Formic Acid

Standard Preparation: Atorvastatin Calcium standard prepared as 0.1mg / mL standard solution in diluent.

Sample Preparation: 20mg strength tablet (Atorvastatin Calcium) was added to a 10mL volumetric flask with a portion of Diluent. The solution was sonicated 10 minutes and diluted to mark with Diluent. It was then filtered through a 0.45µm Nylon Syringe Filter (MicroSolv Technology Corp.). The filtrate was diluted to final concentration of 0.1mg / mL.

t_0: 1.2 Minutes

K: 2.15

%RSD of 5 injections: ‹0.1%

Notes: Atorvastatin can treat high cholesterol and triglyceride levels. This may reduce the risk of angina, stroke, heart attack, and heart and blood vessel problems. Atorvastatin is a specific inhibitor of HMGCR (HMG-CoA reductase). HMGCR is the enzyme that catalyzes the conversion of HMG-CoA to Mevalonate, an early step in Cholesterol Biosynthesis. Atorvastatin is used in the treatment of Hypercholesterolemia. Marketed by Pfizer as Lipitor® this AppNote used a generic version.

*Notes: Calculation for Capacity Factor - Relative Retention **k** = (tR-t0)/t0*