

Application Report 02

Separation of Rapamycin and 32-Desmethoxyrapamycin on Discovery HS C18

Rapamycin (sirolimus) is an immunosuppressive macrolide used to inhibit the autoimmune system following organ transplant operations. Due to variable pharmacokinetics and a narrow therapeutic concentration range, there is a great need for fast and accurate measurement of rapamycin to guide drug administration. This application shows the suitability of Discovery HS C18 for the retention and separation of rapamycin from 32-desmethoxyrapamycin, which is commonly used as an internal standard. The structures of the analytes are shown to the right. The chromatogram below shows that the optimized separation is easily obtained in under 5 minutes. Note that elevated temperature greatly reduces band broadening of these analytes.

Key Words

Rapamycin, 32-desmethoxyrapamycin, Discovery HS C18, 568522-U, 44532-U, 44534-U, Anti-rejection, 53123-88-9, Sirolimus, Rapamune, immunosuppressant

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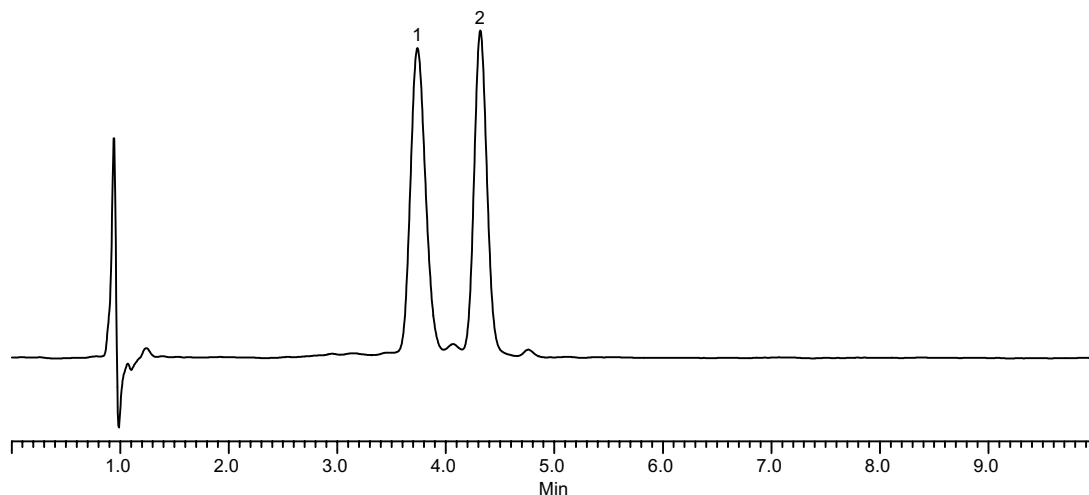
Raw Data File Name:

C:\HPCHEM\2\DATA\1450\95x00010

Acquisition System:

SPE Lab/Agilent 1100\System 2

Notebook Reference: 1462-10



G002015

Conditions

Column: Discovery HS C18, 15cm x 4.6mm ID, 3µm
Cat. No.: 568522-U
Mobile Phase: 10mM Ammonium Acetate, pH unadjusted:Acetonitrile (25:75, v/v)
Temperature: 60°C
Flow Rate: 1.5mL/min
Injection Volume: 10µL
Detection: UV, 268nm
Sample: 10µg/mL each analyte in 10mM Ammonium Acetate:Methanol (90:10, v/v)

Peak IDs

1. Rapamycin
2. 32-Desmethoxyrapamycin

Structures

Rapamycin - G002016

