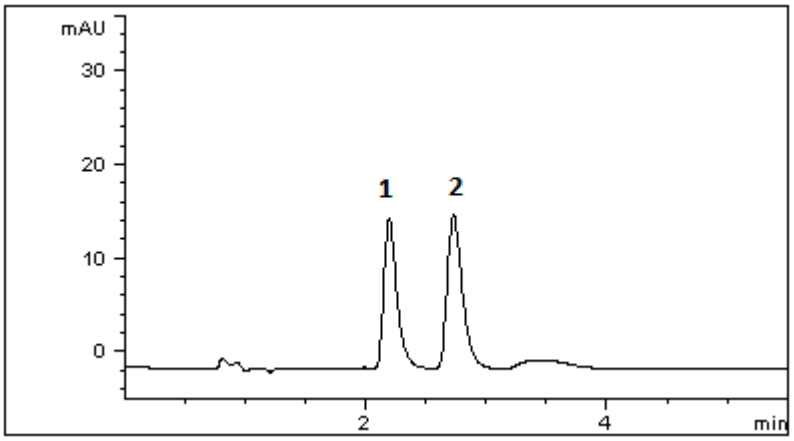
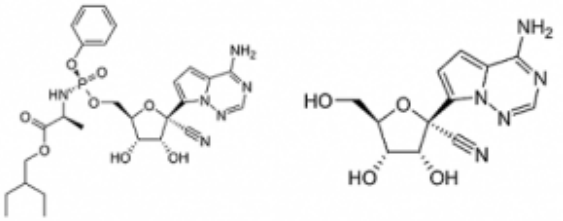
Remdesivir and GS-441524 a ProDrug - AppNote

Retention of Polar and Non-Polar Drug Compounds in ANP

Remdesivir, an antiviral drug, and GS-441524, a pro-drug converted in the body as a ribonucleotide analog, is as a mixture that may be difficult to analyze in routine chromatographic analysis. As GS-441524 is polar, is makes it more difficult to retain in typical Reversed Phase conditions.

By use of the Cogent Diamond Hydride™ Column in ANP, we have illustrated how this contrasting mixture of compounds can be retained and still possess excellent peak shape. This method demonstrates an easy HPLC method that can be easily transferred to LCMS.





Remdesivir GS-441524

Peaks:

1. Remdesivir
2. GS-441524

Method Conditions:

Column: Cogent Diamond Hydride™, 4 µm, 100 Å
Catalog No.: 70000-75P
Dimensions: 4.6 x 75mm

Mobile Phase:

A. DI Water / 0.1% Formic Acid (v/v)

B. Acetonitrile / 0.1% Formic Acid (v/v)
Isocratic: 92% B
Injection Volume: 2ul
Flow Rate: 1.0 mL / minute
Detection: 254 nm

Samples: Remdesivir and GS-441524 in 0.1 mg/mL concentration

Note: *Remdesivir is a broad-spectrum antiviral drug that is able to diffuse into cells where it is converted to GS-441524 mono-phosphate. This is achieved via the actions of esterases and a phosphoamidase; which in turn is further phosphorylated to its active metabolite triphosphate by nucleoside-phosphate kinases GS-441524. GS-441524 has previously been researched as a treatment for feline infectious peritonitis (FIP), a lethal coronavirus disease which affects domestic cats.*

COGENT HPLC Columns™

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