

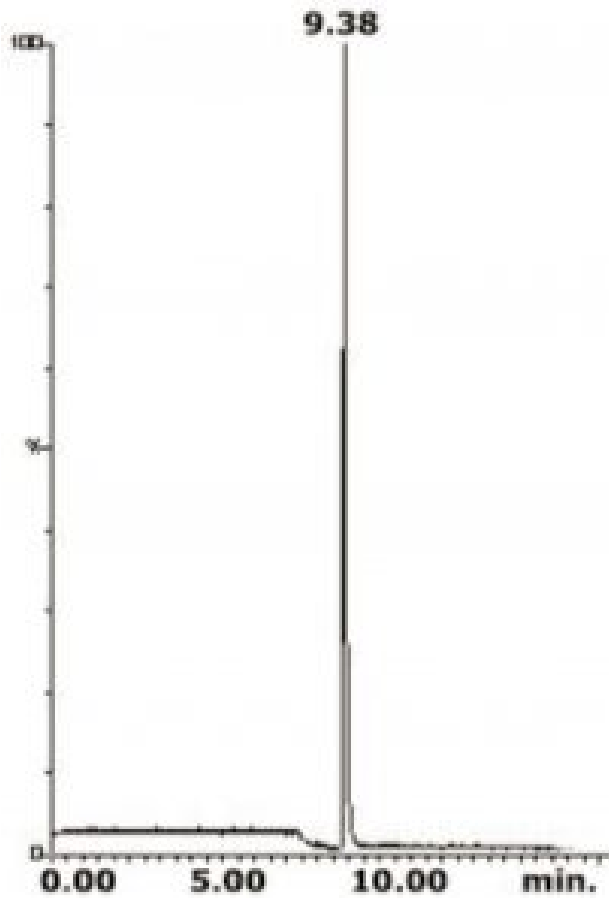


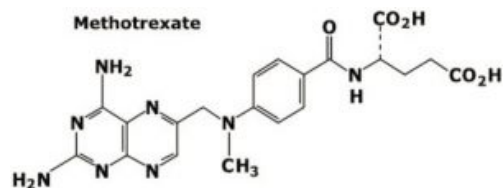
Methotrexate Analyzed with LCMS- AppNote

Methotrexate an Anti-Neoplastic and Anti-Tumor Drug

The powerful anticancer drug, Methotrexate (*4-Amino-N10- Methylpteroyl Glutamic Acid*) acts as an antimetabolite and is used for the treatment of many neoplastic diseases including acute leukemia, osteosarcoma, non-Hodgkins lymphoma, and breast cancer. There is a great interest in pharmacological studies and clinical monitoring of Methotrexate.

A quadrupole Mass Spectrometer operating in the positive ion mode and an atmospheric pressure ionization (API) source was used for selective detection and assured that no interfering Peaks affect the quantitative results. The Retention of the Methotrexate is more than sufficient. The LCMS Method developed assures both high Specificity and Sensitivity.





Peak:

Methotrexate m/z 455

Method Conditions

Column: Cogent Bidentate C18™, 4μm, 100Å

Catalog No.: [40018-25P](#)

Dimensions: 4.6 x 250mm

Mobile Phase:

A: DI Water / 0.5% Formic Acid

B: Acetonitrile

Gradient:

Time (minutes)	%B
0	90
1	90



5	20
10	20
10.01	90
12	90

Injection vol.: 1 μ L

Flow rate: 0.5mL / minute

Detection: APCI + Single Ion Monitoring

Sample Preparation: 0.1mg / mL in DI Water / 0.5% Formic Acid

Notes: Cogent TYPE-C Columns require very little time for equilibration when using a Gradient. ANP (Aqueous Normal Phase) is a very MS friendly technique. By using ANP for analysis of polar compounds by LCMS a 10-100 fold increase of Sensitivity is often observed. The sample can be dissolved in water or water + organic solvent mixture, which is advantageous over other analyses.



Attachment



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