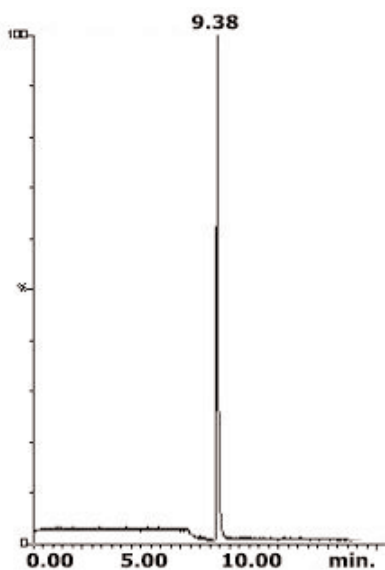
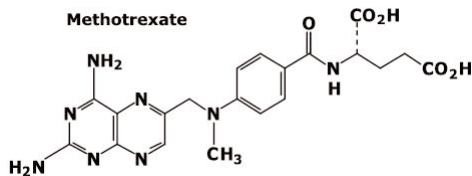


Methotrexate – Anti-Neoplastic, Anti-Tumor Drug.

Analysis by LCMS



Note: 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 LC-MS 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.

Method Conditions

Column: Cogent Bidentate C18™, 4µm, 100A
Catalog No.: 40018-25P
Dimensions: 4.6 x 250 mm
Mobile phase: A: DI water + 0.5% formic acid
 B: Acetonitrile

ANP gradient – gradient conditions

Time (min.)	%A	%B
0.00	10.0	90.0
1.00	10.0	90.0
5.00	80.0	20.0
10.00	80.0	20.0
10.01	10.0	90.0
12.00	10.0	90.0

Flow rate: 0.5 mL/minute
Injection Volume: 1 µL
Sample: Methotrexate m/z 455
 0.1 mg/mL in DI water + 0.5% formic acid
Detection: APCI+. Single Ion Monitoring

Discussion

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. A Cogent bidentate C18 column was the column of choice for the ANP gradient analysis of the drug. The retention of the methotrexate is more than sufficient. The LC-MS method developed assures both high specificity and sensitivity.

For more information visit www.MTC-USA.com

Cat. No.	Description
40018-25P	Cogent Bidentate C18 HPLC Column, 100Å, 4µm, 4.6 x 250mm, Standard End Fittings.

