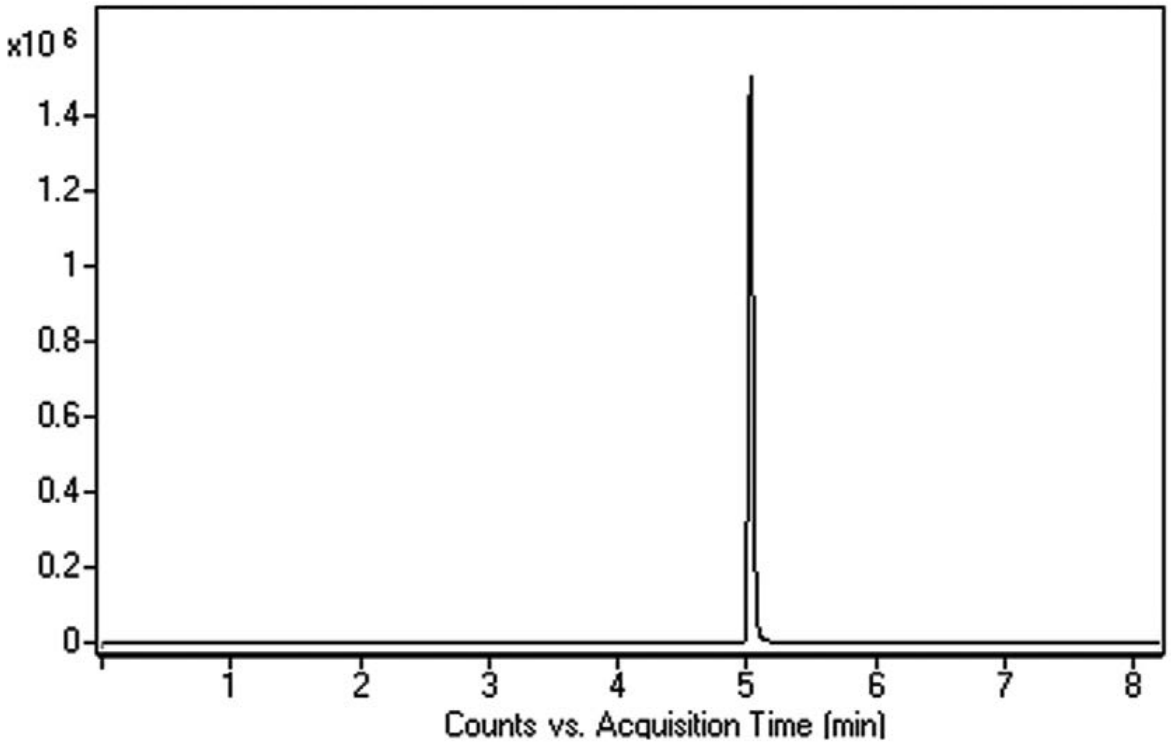
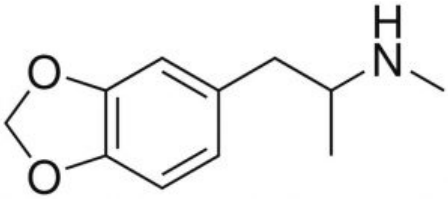
Analysis of MDMA in Plasma Samples with LCMS – AppNote

Methylenedioxymethamphetamine Analyzed with MS

Click *HERE* for Column Ordering Information.

Under the described conditions, MDMA was retained and eluted as a Symmetrical Peak. The Sensitivity of the Method is very good and comparable to that reported with GCMS Detection [1]. Matrix effects were of minor extent and reproducible and hence should not compromise Quantification. The Method can be used for Forensic Research and Clinical Analysis.





Peak:

(±)-3,4-Methylenedioxymethamphetamine, m/z 194.1176 [M+H]+

Method Conditions

Column: Cogent Phenyl Hydride™, 4µm, 100Å

Catalog No.: 69020-05P-2

Dimensions: 2.1 x 50mm

Mobile Phase:

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

B: Acetonitrile / 0.1% Formic Acid (v/v)

Gradient:

Time *(minutes)*	%B
0	10
1	10
6	90
7	10

Post Time: 3 minutes

Flow rate: 0.4mL / minute

Injection vol.: 1µL

Sample Preparation: 50 µl of Acetonitrile was mixed with 50µl of plasma for protein precipitation. The samples were centrifuged *(16000×g for 15 minutes)*, and the supernatant was filtered through a 0.45µm Nylon Syringe Filter (MicroSolv Tech Corp.) and transferred to autosampler vials for injection.

Detection: ESI – POS – Agilent 6210 MSD TOF Mass Spectrometer

t_0: 0.9 minutes

Note: The Amphetamine derivative 3,4-methylenedioxymethamphetamine (MDMA), known also as Molly or Ecstasy, is often used or abused as a recreational drug. Because of a reported high inter-individual difference of its toxicity, sensitive analytical methods are needed. A urine test is a standard method to investigate drug abuse but the method has a very low diagnostic sensitivity and makes testing in plasma much more suitable.

Reference:

[1]. R. Kikura, Y. Nakahara, T. Mieczkowski, F. Tagliaro, Forensic Sci. Int. 84 (1997) 165–177.

Attachment

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