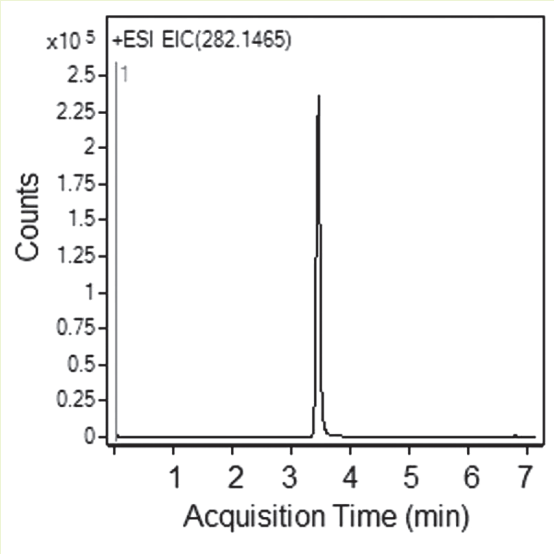
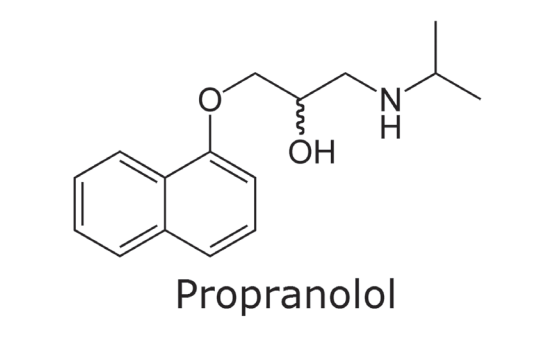
Propranolol in Urine

Excellent peak shape for basic compound





Note: Propranolol is a non-selective beta adrenergic receptor blocker used in treatment of hypertension, angina pectoris, cardiac arrhythmia, and sometimes as a doping agent in sports. It is also used as a preventive drug in migraine.

Method Conditions

Column: **Cogent Diamond Hydride 2.0™**, 2.2µm, 120Å

Catalog No.: 70200-05P-2

Dimensions: 2.1 x 50 mm

Solvents: A: DI H_2O / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	90
4	30
6	30
7	90

Post time: 3 min

Injection vol.: 1 microL

Flow rate: 0.4 mL/min

Detection: ESI – POS – Agilent 6210 MSD TOF mass spectrometer

Sample: A urine specimen from a volunteer taking propranolol was collected in 10mL of 6.0 mol/L hydrochloric acid over a 24-h period. 400 microL of acetonitrile was added to 100 microL of urine, and the sample was centrifuged (3000 g). Next, 20 microL of the supernatant was mixed with 10 microL of 50% acetonitrile / 50% DI H_2O / 0.1% formic acid. The sample was filtered using a MicroSolv Tech Corp. filter and injected into the LC–MS.

Peak: Propranolol 260.1645 m/z $[M+H]^+$

t_0: 0.3 min

Discussion

The developed method permitted analysis of propranolol in urine after simple sample preparation. The analysis is performed at a high concentration of acetonitrile (acetone may be used as well). The peak shape obtained for this basic compound was excellent. The method could be easy applied to analysis of propranolol in blood samples after appropriate sample treatment.

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