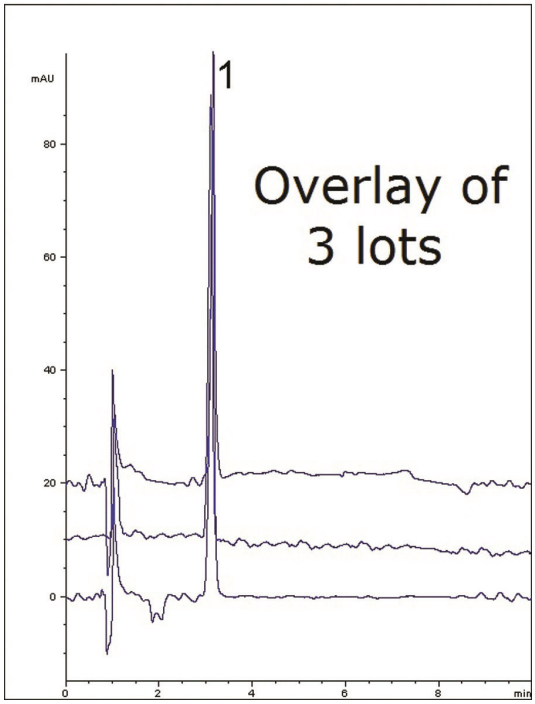
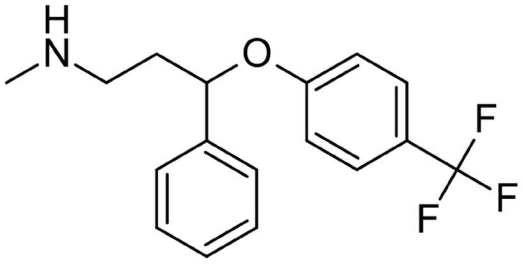
Fluoxetine (Prozac®)

Excellent retention and peak shape with Amide column





Fluoxetine

Note: Fluoxetine is a widely prescribed antidepressant which acts by selective inhibition of presynaptic serotonin reuptake. In addition, fluoxetine can also act as a noncompetitive antagonist of nicotinic acetylcholine receptors. Sold as a racemic mixture, fluoxetine's R and S forms show similar efficacy in vivo, and its binding affinity has been shown to be largely stereoindependent.

Method Conditions

Column: **Cogent Amide™**, 4µm, 100Å

Catalog No.: 40036-05P

Dimensions: 4.6 x 50 mm

Solvents: A: 90% DI H_2O / 10% acetonitrile / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	93
2	93
6	60
7	93

Injection vol.: 0.5µL

Flow rate: 0.8mL/min

Detection: UV 228 nm

Sample: 20 mg strength fluoxetine capsule contents were added to 50 mL volumetric flask with a portion of 50:50 solvent A:B diluent, sonicated 10 min, and diluted to mark. Then an aliquot was filtered through a 0.45 µm nylon membrane (MicroSolv Technology Corp., Leland, NC, USA) and used for injections.

Peak: 1. Fluoxetine

Discussion

Fluoxetine can have a tendency to tail in some HPLC methods due to its secondary amine group. However, peak shape with the Cogent Amide column was found to be highly symmetrical without the aid of ion pairing agents. This allows the method conditions to be adapted to LC-MS if needed. With more complex fluoxetine analyses such as those of plasma extracts, LC-MS may be required.

Lot to lot reproducibility of the Cogent Amide is highly consistent and reliable. The chromatogram overlay shows results from three different synthesis batches, with a retention time %RSD of 1.2%.

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