Application Report 134

Separation of Dopamine and Related Compounds using Discovery® HS F5 with Mass Spectrometric Detection

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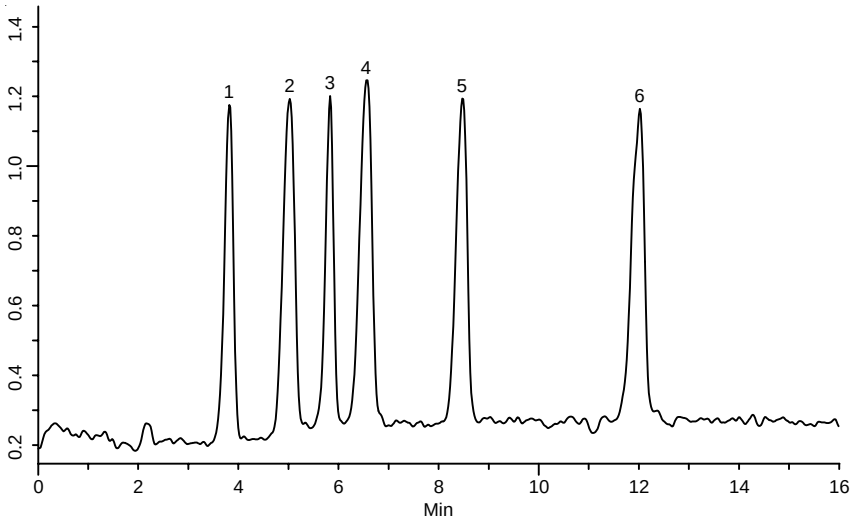
Acquisition System: W2790
Notebook Reference: 1525-44

This application describes the efficient separation of dopamine and 5 related compounds with gradient elution and mass spectrometric detection in ESI (+) and (-) modes using Discovery HS F5.

Key Words

carbidopa, C-126, 65132-60-7, homovanillic acid, HVA, 4-hydroxy-3-methoxyphenylacetic acid, H-1252, 306-08-1, 3,4-dihydroxyphenylacetic acid, DOPAC, D-9128, 102-32-9, 3,4-dihydroxybenzyl amine, D-7012, 16290-26-9, levodopa, 59-92-7, dopamine, 3-hydroxytyramine, H-8502, 62-31-7, biogenic amines, neurotransmitters, HPLC, mass spectrometry, LC-MS, Discovery HS F5, 567516-U



G002482

Conditions

Column: Discovery HS F5, 15cm x 4.6mm ID, 5µm particles
Cat. No.: 567516-U
Mobile Phase: (A) 10mM ammonium formate (pH 3.0 with concentrated formic acid)
(B) CH_3CN

Gradient:

Min	%A	%B
0	97	3
12	80	20
13	80	20
14	97	3
17	97	3

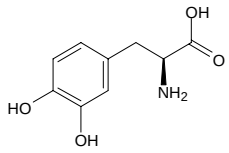
Flow Rate: 1mL/min, split to the MS
Temp.: 35°C
Det.: MS in SIR (Selected Ion Recording) mode using (+) or (-) ESI mode.
Inj.: 25µL
Sample: 50µg/mL (in 10mM ammonium formate (pH 3.0 with formic acid)

Peak IDs

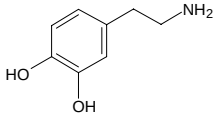
1. Levodopa, m/z 198
2. 3,4-dihydroxybenzylamine, m/z 140
3. Carbidopa, m/z 227
4. Dopamine, m/z 154
5. Dihydroxyphenylacetic acid, m/z 167
6. Homovanillic acid, m/z 181

Structures

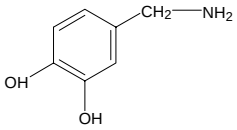
Levodopa - G002483



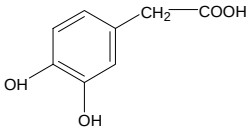
Dopamine - G002488



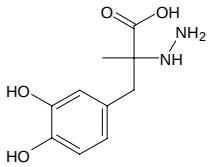
3,4-dihydroxybenzylamine - G002484



Dihydroxyphenylacetic acid - G002486



Carbidopa - G002485



Homovanillic acid - G002487