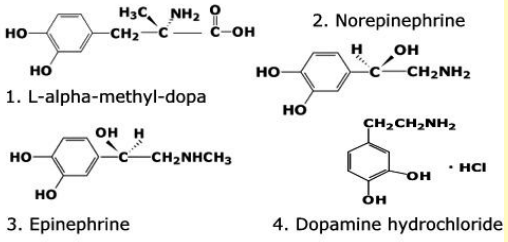
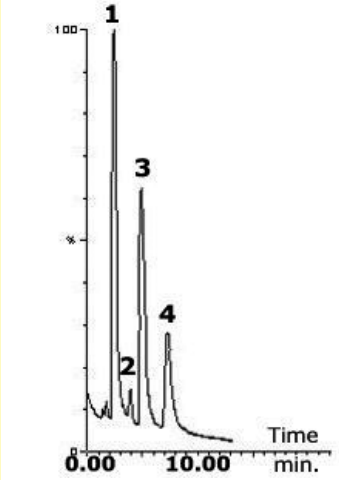
APPLICATION NOTES

Cogent™

Bidentate C18

with TYPE-C Silica™





Note: The concentration of catecholamines and their metabolites in plasma or brain are useful for diagnosis and evaluation of therapeutic and pharmacodynamic effects for psychiatric, neurological and cardiovascular disorders. The use of mass spectroscopy for detection in the analysis of catecholamines is an effective approach due to the lack of a suitable chromophore on these molecules making UV detection difficult. In addition mass spectrometry provides positive identification of each component. The analysis (total ion chromatogram) of a four-componemt catecholamine mixture on Cogent Bidentate C18 column is shown.

Catecholamines:
Analysis by LC-MS

Method Conditions

Column: Cogent Bidentate C18, 4µm, 100A.
Catalog No.: 40018-75P
Dimensions: 4.6 x 75 mm
Mobile phase: Acetonitrile/25 mM ammonium formate 5:95, pH = 4.
Flow rate: 0.5 mL/minute
Injection Volume: 1 uL
Samples: 1. L-alpha– methyl – dopa
2. Norepinephrine
3. Epinephrine
4. Dopamine hydrochloride
10 µg were dissolved in 1 mL of the mobile phase, except the concentration of norepinephrine was 3 µg/mL in mobile phase.
Detection: Mass Spec: Atmospheric Pressure Chemical Ionization in the Positive mode: APCI+.

Discussion: Major Peaks

Table below: Major peaks in mass spectra of solutes used in the study.

	Solute	m/z	Peak Identity
1.	L-alpha– methyl – dopa	212	MH^+
		194	$MH^+ - H_2O$
2.	Norepinephrine	152	$MH^+ - H_2O$
		135	$MH^+ - 2H_2O$
3.	Epinephrine	184	MH^+
		166	$MH^+ - H_2O$
		148	$MH^+ - 2H_2O$
4.	Dopamine hydrochloride	154	MH^+
		136	$MH^+ - H_2O$

This method is easy and robust and very effective.
For more information visit www.MTC-USA.com

Cat. No.	Description
40018-75P	Cogent Bidentate C18 HPLC Column, 100Å, 4µm, 4.6 x 75 mm, Standard End Fittings.

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