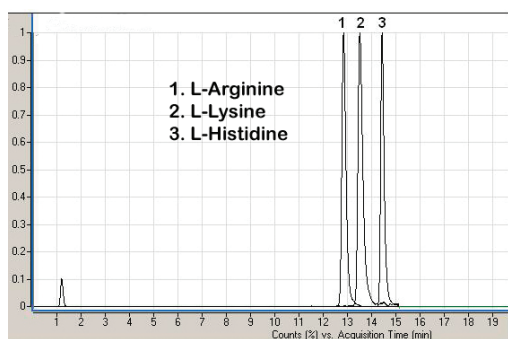
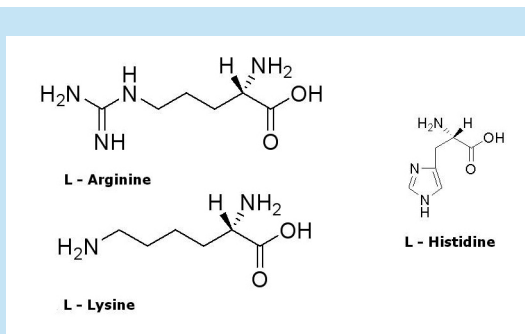


Basic Amino Acids In Synthetic or Human Urine



Notes:

The "cleanup" procedure used proved additionally advantageous by eliminating the use of C-18 solid phase extraction columns required by techniques described in the literature. The level of amino acids in biological fluids can be correlated with several neurological (Alzheimer's disease, ischemic stroke and others) and metabolic disorders (argininemia, phenylketonuria, maple syrup urine disease and others).

Sample preparation:

400 µL of acetonitrile was added to 100 µL of synthetic or human urine and the sample was centrifuged (3000 g). Next 20 µL of the supernatant was mixed with 10 µL of the 50% acetonitrile/50%DI water + 0.1% formic acid

L - Arginine, L - Lysine and L - Histidine retained and separated in ANP

Method Conditions

Column: Cogent Diamond Hydride™ 4µm, 100Å.
Catalog No.: 70000-15P-2
Dimensions: 2.1 x150 mm
Solvents: A: DI water + 0.1% formic acid
 B: 95% acetonitrile + 0.1% formic acid + 0.005% TFA

Mobile Phase: Gradient:

Time	%B	Time	%B
0.0	100	9.0	85
5.0	100	10.0	85
6.0	95	12.0	70
7.0	95	12.1	100

Post time: 5 min
Flow rate: 0.4 mL/min.
Sample: Synthetic human urine
Peaks: 1.L - Arginine 175 m/z RT = 12.83 min
 2. L - Lysine 147 m/z RT = 13.49 min
 3. L - Histidine 156 m/z 14.42 min
Detection: ESI - pos - Agilent 6210 MSD TOF mass spectrometer.

Discussion

A "cleanup" procedure for the isolation of the basic amino acids was used. No derivatization procedure was used. Three basic amino acids were separated using gradient Aqueous Normal Phase (ANP) chromatography.

The advantages of this method are: (1) isolation and stable recovery (>95%) of the desired basic amino acids, (2) sensitivity of detection (low pmol range), (3) complete resolution of non-derivatized amino acids via ANP LCMS and (4) limited amount of sample required for analysis.

For more information visit www.MTC-USA.com

Cat. No.	Description
70000-15P-2	Cogent Diamond Hydride™HPLC Column, 100Å, 4µm, 2.1 x 150mm