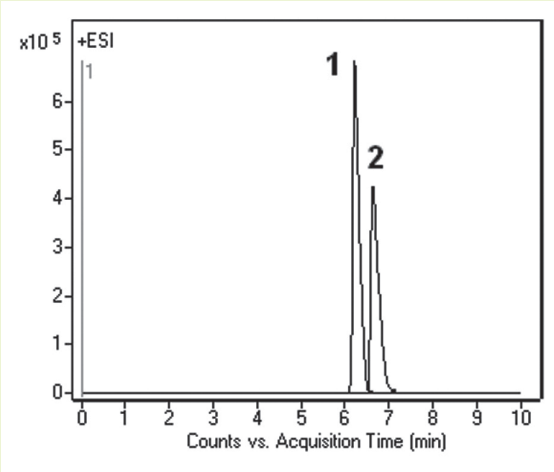
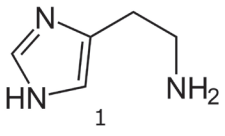
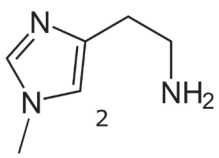
Histamine and Methylhistamine

No derivatization required





Histamine



Methylhistamine

Note: 1 mg/mL of each compound was dissolved in DI water and filtered through a disposable 0.45 micron filter (MicroSolv Tech Corp.). Sample for injection was diluted 1:100 with 50:50 solvent A:B mixture.

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å

Catalog No.: 70000-15P-2

Dimensions: 2.1 x 150 mm

Solvent: A: DI water / 0.1% formic acid (v/v)
B: Acetonitrile / 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	70
2	65
6	10
8	10
9	70

Post Time: 2 min

Injection vol.: 1 microL

Flow rate: 0.4 mL/min

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

Peaks: 1. Histamine 112.0869 m/z $[M+H]^+$
2. Methylhistamine 126.1026 m/z $[M+H]^+$

t_0: 0.9 min

Discussion

Various assay methods for histamine (HA) and/or its metabolite (MHA) in biological samples have been developed. However, most of them require postcolumn (for detection purposes) or precolumn (to achieve retention) derivatization. The method presented here provides separation of these two compounds yet doesn't require derivatization. The method used in this application note was able to solve the inherently difficult problem of analysis of two biogenic amines with close physicochemical properties.

A successful validation of the assay was indicated by the high linearity of calibration curves and the low inter- and intraday variation coefficients.

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