

# Application Report 289

## LC-MS Analysis of Serotonin and its Major Metabolites

Serotonin and three metabolites are resolved on Ascentis C18.

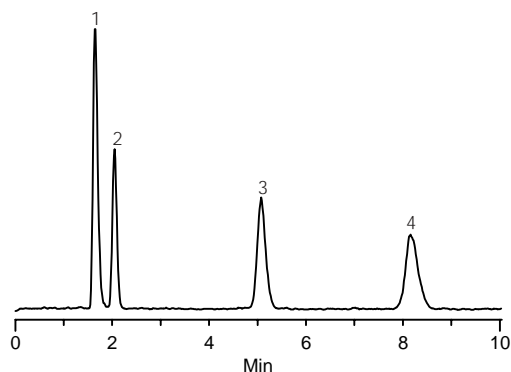
### Key Words

tryptophan, 22-3, amino acid, 5-hydroxytryptophan, H9772, 145224-90-4, 5-hydroxytryptamine, serotonin, H9523, 153-98-0, 5-hydroxyindoleacetic acid, H8876, 54-16-0, Ascentis C18, 581326-U

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Acquisition System: Micro-Tech Scientific UltraPlus II / Thermo LCO Advantage

Notebook Reference: 1524



G003124

### Conditions

column: Ascentis C18, 10 cm x 2.1 mm I.D., 5  $\mu$ m particles (581326-U)  
mobile phase A: 50:50, (20 mM formic acid titrated to pH 3.0 with ammonium hydroxide):water  
mobile phase B: 50:50 (20 mM formic acid titrated to pH 3.0 with ammonium hydroxide):methanol  
flow rate: 0.2mL/min.  
temp.: ambient  
det.: ESI (+), combined extracted ion chromatogram  
injection: 4  $\mu$ L  
sample: as indicated in 10% methanol  
gradient: 

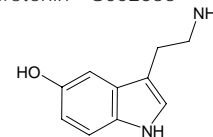
Min	%A	%B
0	70	30
10	70	30

### Peak IDs

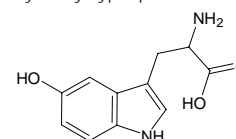
1. Serotonin, (M + H)<sup>+</sup> = 177.1; (5 mg/L)
2. 5-hydroxytryptophan, (M + H)<sup>+</sup> = 221.1; (5 mg/L)
3. Tryptophan, (M + H)<sup>+</sup> = 205.1; (5 mg/L)
4. 5-hydroxyindole-3-acetic acid, (M + H)<sup>+</sup> = 192.1; (5 mg/L)

### Structures

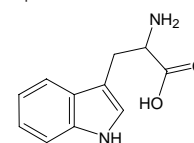
Serotonin - G002536



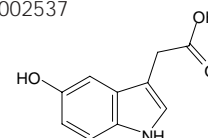
5-hydroxytryptophan - G002535



Tryptophan - G002534



5-hydroxyindole-3-acetic acid - G002537



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