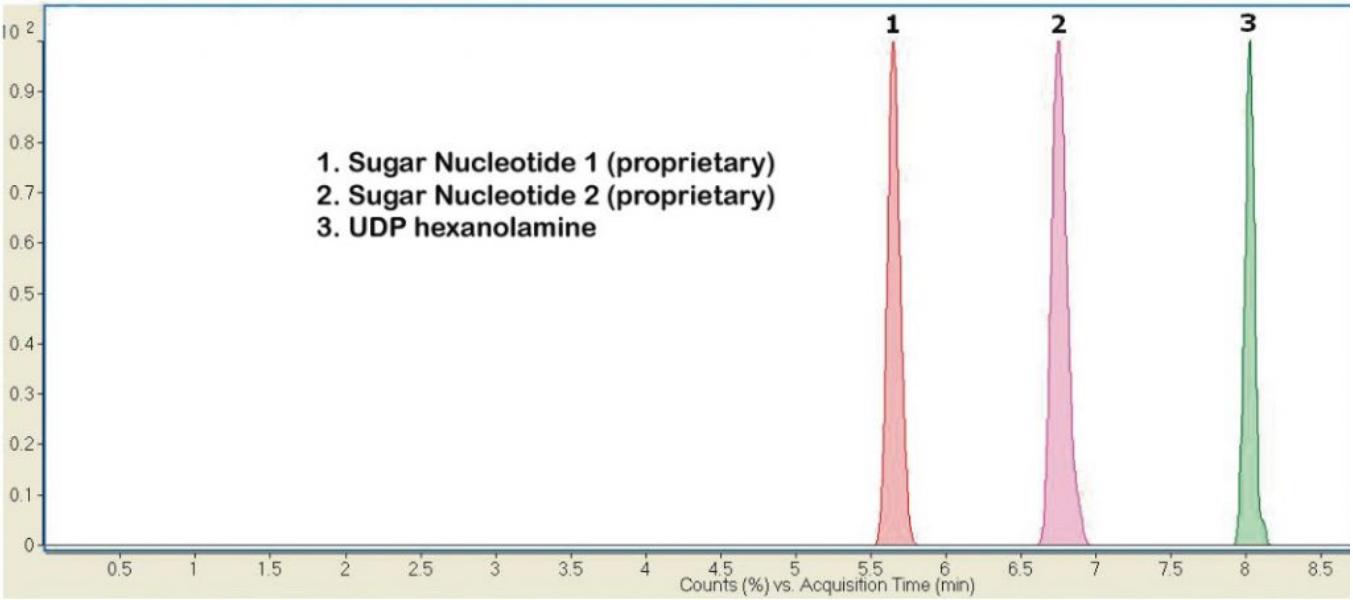
Sugar Nucleotides Analyzed with LCMS/MS – AppNote

Separating UDP and CDP Sugars with ANP and Increased Sensitivity

This Method can be used to analyze UDP and CDP Sugars using UDP-Hexanolamine *(a metabolite)* as an Internal standard. The Sugar Nucleotides used in this Application Note are a mixture of compounds that occur in plants and their structure is proprietary.

A potentially powerful tool for profiling Sugar Nucleotides in Metabolomic studies, this Method uses an Inverse Gradient *(HILIC like);* the Mobile Phase uses high organic component which enhances Mass Spec response and assures lower detection limits.



Method Conditions

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

Catalog No.: 70000-15P-2

Dimensions: 2.1 x 150mm

Mobile Phase:

A: DI Water / 0.1% Ammonium Formate *(pH 7.2)*

B: 90% Acetonitrile / 10% DI Water / 0.1% Ammonium Formate *(pH 6)*

Gradient:

Time *(minutes)*	%B
0	95
10	75
12	75
12.1	95
15	95

Post Time: 5 minutes

Flow rate: 0.3mL / minute

Detection: ESI – neg – Agilent 6410 Triple Quadrupole Mass Spectrometer

Mass Data:

1. Compound 1 – the monitored MRM transitions were m/z 535 to m/z 323
2. Compound 2 – the monitored MRM transitions were m/z 564 to m/z 322
3. UDP Hexanolamine *(internal standard)* – the monitored MRM transitions were m/z 502 to m/z 258

(MRM = multiple reaction monitoring in LC/MS/MS)

Notes: *Sugar Nucleotides among other metabolites are an important group of compounds to be analyzed when one is trying to understand cellular response to genetic or environmental perturbations.*

Attachment

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