Restoring the initial results with a method for analyzing AMP ADP ATP UDP and GPT in biological extracts – Tips & Suggestions

"My Results deteriorated after two days of using the Cogent Diamond Hydride™ column for *AMP, ADP, ATP, UDP and GPT* in biological extracts".

Phosphate containing metabolites that you are using are very sensitive to the presence of sodium in your LCMS system.

After few days there is enough sodium in your system *(leaching from the borosilicate glass bottles)* that it is sufficient to affect peak shape of this class of metabolites. There are two solutions to this problem:

A: Prepare fresh mobile phase daily

or

B: Switch to Teflon mobile phase reservoir bottles

We recommend point B above for a long term solution. If you happen to have J.T. Baker Nitric Acid – ULTREX made in Canada, it comes in perfect Teflon bottles. To prepare these bottles for use with LCMS, rinse them with DI water (3 times), fill with methanol / DI water 1:1 and keep this solution overnight in the bottle. After this the bottles are ready for LCMS

You can also try adjusting the aqueous ammonium acetate or formate mobile phase to pH 7.0 using ammonia.
Also you can try adding 0.1% ammonia to the sample diluent and see if this remedies the peak shape issue.

The sample may not be able to be stored as long with the ammonia however. Also be sure to dedicate one column to ammonium acetate / formate and another to acids such as formic acid.

Diamond Hydride Product Page

Printed from the Chrom Resource Center
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Date: 07-03-2024