



Human blood serum spiked with N-alpha-acetyl-lysine (NAAL)

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Field strength: 800 MHz

Why is this your favorite spectrum?

Why is this your favorite spectrum?: A multiplet NMR signal often appears at 1.4 ppm in the 1D ^1H NMR spectrum of human serum samples. The signal is slightly downfield shifted w.r.t lactate signal (referenced here at 1.3102 ppm). When we used the profiler module of CHENOMX (v8.1, containing 800 MHz data library of various endogenous metabolites), the multiplet peak pattern(s) nicely matched with that of simulated patterns of library compound known as N-alpha acetyl-lysine or NAAL). The identified NAAL resonances were further confirmed through NMR spiking experiments using NAAL.

Comments: The spectral signatures of N-alpha acetyl-lysine (NAAL) established in our lab have been used to assess the hyperacetylation status of patients suffering from Ankylosing spondylitis (as reported here: Toussiro E and Co-workers; PLoS One (2013), 15;8(8):e70939).