

Product Data Sheet

Product Name: Acetyl-Coenzyme A-d3 (sodium salt)

Cat. No.: GC91813

Chemical Properties

Cas. No. N/A

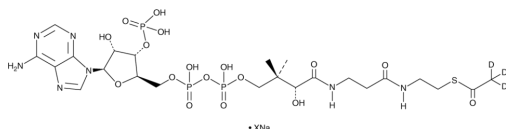
Formula $C_{23}H_{35}D_3N_7O_{17}P_3S \cdot XNa$ M.Wt 812.6

Solubility Acetonitrile: Soluble, Water: Soluble Storage $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Acetyl-coenzyme A-d₃ (acetyl-CoA-d₃) is intended for use as an internal standard for the quantification of acetyl-CoA by GC- or LC-MS. Acetyl-CoA, the thioester of CoA and acetic acid, is a pivotal molecule in biological systems. Foremost, it serves as a source of carbon for the Krebs cycle, for the synthesis of fatty acids, and for isoprenoid-based protein modifications.^{1,2,3,4} Acetyl-CoA also serves as an intermediate in oxidation of fatty acids and amino acids and is formed by the oxidative decarboxylation of pyruvate in mitochondria.^[5] It is an essential cofactor or substrate for acetyltransferases and acyltransferases, as in the post-translational modification of proteins and in the synthesis of the neurotransmitter acetylcholine.^{2,3}

References:

[1].Akram, M.Citric acid cycle and role of its intermediates in metabolismCell Biochem. Biophys.68(3)475-478(2014).

[2].Salminen, A., Kauppinen, A., Hiltunen, M., et al.Krebs cycle intermediates regulate DNA and histone methylation: Epigenetic impact on the aging processAgeing Res. Rev.16C45-65(2014).

[3].Zaidi, N., Swinnen, J.V., and Smans, K.ATP-citrate lyase: A key player in cancer

Caution: Product has not been fully validated for medical applications. For research use only.

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metabolismCancer Res.72(15)3709-3714(2012).

[4].Palsson-McDermott, E.M., and O'Neill, L.A.The Warburg effect then and now: From cancer to inflammatory diseasesBioEssays35(11)965-973(2013).

[5].Miura, Y.The biological significance of ω -oxidation of fatty acidsProc. Jpn. Acad. Ser. B Phys. Biol. Sci.89(8)370-382(2013).

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