
Product Data Sheet

Product Name: DL-threo-2-methylisocitrate sodium

Cat. No.: GC16274

Chemical Properties

Cas. No.

Chemical Name sodium (2R,3S)-3-hydroxybutane-1,2,3-tricarboxylate

SMILES C[C@](C([O-])=O)(O)[C@@](C([O-])=O)([H])CC([O-])=O.C[C@](C([O-])=O)(O)[C@@](C([O-])=O)([H])CC([O-])=O.[Na+].[Na+].[Na+].[Na+].[Na+].[Na+]Formula C₁₄H₁₄Na₆O₁₄ M.Wt 544.19Solubility H₂O : 100 mg/mL (183.76 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°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

DL-threo-2-methylisocitrate sodium is a substrate of isocitratelase 1(ICL1).

ICL1 had dual activity for both threo-D(s)L(s)-isocitrate (ICA) and DL-threo-2-methylisocitrate (MICA). Using Michaelis-Menten non-linear least squares fit, the Km of purified recombinant ICL1 for threo-D(s)L(s)-isocitrate (ICA) was determined to be 188 mM with akcatof 5.24 s⁻¹ .The Km of ICL2 for MICA was greater than 15 mM which was too high to be determined accurately due to the limitations of the solubility of MICA. The Kcat/Km for ICL1, a measure for catalytic efficiency, was 2.79 × 10⁴ M⁻¹ s⁻¹ and 1.74 × 10³ M⁻¹ s⁻¹, for ICA and MICA respectively.

Reference:

[1]. Gould TA1, van de Langemheen H, Muoz-Elías EJ, McKinney JD, Sacchettini JC. Dual role of isocitratelase 1 in the glyoxylate and methylcitrate cycles in Mycobacterium tuberculosis. Mol Microbiol. 2006 Aug; 61(4):940-7.

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

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