

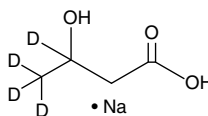
Product Information



(±)-β-Hydroxybutyrate-d₄ (sodium salt)

Item No. 14158

CAS Registry No.: 1219804-68-8
Formal Name: 3-hydroxy-butyr-3,4,4,4-d₄-acid, monosodium salt
Synonym: β-Hydroxybutanoic Acid-d₄
MF: C₄H₄D₄O₃ • Na
FW: 131.1
Chemical Purity: ≥98% (±)-β-Hydroxybutyrate (sodium salt)
Deuterium Incorporation: ≥99% deuterated product (d₁-d₄); ≤1% d₀
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

(±)-β-Hydroxybutyrate-d₄ (sodium salt) contains four deuterium atoms at the 3, 4, 4, and 4 positions. It is intended for use as an internal standard for the quantification of (±)-β-hydroxybutyrate (sodium salt) by GC- or LC-mass spectrometry (MS). For long term storage, we suggest that (±)-β-hydroxybutyrate-d₄ (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

(±)-β-Hydroxybutyrate-d₄ (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-β-Hydroxybutyrate-d₄ (sodium salt) in the solvent of choice. (±)-β-Hydroxybutyrate-d₄ (sodium salt) is soluble in ethanol, which should be purged with an inert gas. The solubility of (±)-β-hydroxybutyrate-d₄ (sodium salt) in ethanol is approximately 5 mg/ml.

(±)-β-Hydroxybutyrate-d₄ (sodium salt) is used as an internal standard for the quantification of (±)-β-hydroxybutyrate (sodium salt) by stable isotope dilution MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

β-Hydroxybutyrate is a ketone body which is over-produced in ketoacidosis, as can occur with diabetes or alcohol abuse.^{1,2}

References

1. Guerci, B., Tubiana-Rufi, N., Bauduceau, B., *et al.* Advantages to using capillary blood ε-hydroxybutyrate determination for the detection and treatment of diabetic ketosis. *Diabetes Metab.* **31**, 401-406 (2005).
2. Stojanovic, V. and Ihle, S. Role of β-hydroxybutyric acid in diabetic ketoacidosis: A review. *Can. Vet. J.* **52(4)**, 426-430 (2011).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14158

Cayman Chemical

Mailing address

1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone

(800) 364-9897
(734) 971-3335

Fax

(734) 971-3640

E-Mail

custserv@caymanchem.com

Web

www.caymanchem.com

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a **refund** of the purchase price, or at Cayman's option, the **replacement**, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our **Warranty and Limitation of Remedy** located on our website and in our catalog.

Copyright Cayman Chemical Company, 03/15/2013