

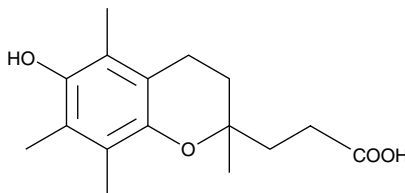
Product Information



α -CEHC

Item No. 10007705

CAS Registry No.: 4072-32-6
Formal Name: 3,4-dihydro-6-hydroxy-2,5,7,8-tetramethyl-2H-1-benzopyran-2-propanoic acid
MF: C₁₆H₂₂O₄
FW: 278.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 205, 298 nm



Laboratory Procedures

For long term storage, we suggest that α -CEHC be stored as supplied at -20°C. It should be stable for at least two years. α -CEHC is supplied as a crystalline solid. A stock solution may be made by dissolving the α -CEHC in an organic solvent purged with an inert gas. α -CEHC is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of α -CEHC in ethanol is approximately 10 mg/ml and 20 mg/ml in DMSO and DMF.

α -CEHC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, α -CEHC should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. α -CEHC has a solubility of approximately 0.25 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Molecules having vitamin E antioxidant activity include four tocopherols (α , β , δ , and γ) and four tocotrienols (α , β , δ , and γ).¹ α -Tocopherol is the major lipid soluble antioxidant *in vivo* and protects against lipid peroxidation.² α -CEHC is the major urinary metabolite of α -tocopherol following vitamin E supplementation.³ The concentration of α -CEHC in human serum is in the range of 5-10 pmol/ml but increases significantly up to 200 pmol/ml upon supplementation with RRR- α -tocopherol. About one-third of the α -CEHC circulating in the blood is present as a glucuronide conjugate.⁴ α -CEHC is excreted when a threshold concentration of 7-9 μ mol α -tocopherol/g total lipid in plasma is exceeded. Therefore, excretion of α -CEHC may be considered to be a marker of optimum vitamin E intake.⁵

References

1. Kamal-Eldin, A. and Appelqvist, L.-Å. The chemistry and antioxidant properties of tocopherols and tocotrienols. *Lipids* **31**, 671-701 (1996).
2. Burton, G.W., Joyce, A., and Ingold, K.U. Is vitamin E the only lipid-soluble, chain-breaking antioxidant in human blood plasma and erythrocyte membranes? *Arch. Biochem. Biophys.* **221**(1), 281-290 (1983).
3. Traber, M.G., Elsner, A., and Brigelius-Flohé, R. Synthetic as compared with natural vitamin E is preferentially excreted as α -CEHC in human urine: Studies using deuterated α -tocopheryl acetates. *FEBS Lett.* **437**, 145-148 (1998).
4. Stahl, W.S., Graf, P., Brigelius-Flohé, R., *et al.* Quantification of the α - and γ -tocopherol metabolites 2,5,7,8-tetramethyl-2-(2'-carboxyethyl)-6-hydroxychroman and 2,7,8-trimethyl-2-(2'-carboxyethyl)-6-hydroxychroman in human serum. *Anal. Biochem.* **275**, 254-259 (1999).
5. Schultz, M., Leist, M., Petrzika, M., *et al.* Novel urinary metabolite of α -tocopherol, 2,5,7,8-tetramethyl-2-(2'-carboxyethyl)-6-hydroxychroman, as an indicator of an adequate vitamin E supply. *Am. J. Clin. Nutr.* **62**(6), 1527S-34S (1995).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10007706

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

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 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, 01/22/2014

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