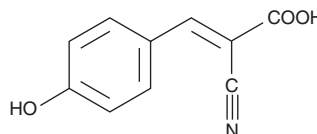


# PRODUCT INFORMATION

## $\alpha$ -Cyano-4-hydroxycinnamic Acid

Item No. 15254

**CAS Registry No.:** 28166-41-8  
**Formal Name:** 2-cyano-3-(4-hydroxyphenyl)-2-propenoic acid  
**Synonyms:** CHC,  $\alpha$ -CHCA, NSC 173138  
**MF:**  $C_{10}H_7NO_3$   
**FW:** 189.2  
**Purity:**  $\geq 98\%$   
**UV/Vis.:**  $\lambda_{max}$ : 242, 344 nm  
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ\text{C}$   
**Stability:**  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

$\alpha$ -Cyano-4-hydroxycinnamic acid ( $\alpha$ -CHCA) is supplied as a crystalline solid. A stock solution may be made by dissolving the  $\alpha$ -CHCA in the solvent of choice, which should be purged with an inert gas.  $\alpha$ -CHCA is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of  $\alpha$ -CHCA in these solvents is approximately 30 mg/ml.

$\alpha$ -CHCA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers,  $\alpha$ -CHCA should first be dissolved in DMSO and then diluted with the aqueous buffer of choice.  $\alpha$ -CHCA has a solubility of approximately 0.1 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

$\alpha$ -CHCA is an inhibitor of monocarboxylate transporter 1 (MCT1) that blocks pyruvate transport in rat heart mitochondria ( $IC_{50} = 1.5 \mu\text{M}$ ).<sup>1</sup> It is commonly used as a matrix to facilitate peptide ionization in matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry applications.<sup>2,3</sup>

### References

1. Halestrap, A.P. The mitochondrial pyruvate carrier: Kinetics and specificity for substrates and inhibitors. *Biochem. J.* **148**(1), 85-96 (1975).
2. Watanabe, M., Terasawa, K., Kaneshiro, K., *et al.* Improvement of mass spectrometry analysis of glycoproteins by MALDI-MS using 3-aminoquinoline/ $\alpha$ -cyano-4-hydroxycinnamic acid. *Anal. Bioanal. Chem.* **405**(12), 4289-4293 (2013).
3. Yang, H., Wan, D., Song, F., *et al.*  $\alpha$ -Cyano-4-hydroxycinnamic acid, sinapinic acid, and ferulic acid as matrices and alkylating agents for matrix-assisted laser desorption/ionization time-of-flight mass spectrometric analysis of cysteine-containing peptides. *Rapid Commun. Mass Spectrom.* **27**(12), 1410-1412 (2013).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. 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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM