

## Certificate of Analysis

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**Product Name:** *trans*-4-Hydroxycrotonic acid

**Catalog No.:** 0538

**Batch No.:** 1

CAS Number: 24587-49-3

IUPAC Name: *trans*-4-Hydroxy-2-butenoic acid

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>  
**Batch Molecular Weight:** 102.09  
**Physical Appearance:** Light yellow crystalline solid  
**Solubility:** DMSO to 100 mM  
**Storage:** Desiccate at +4°C  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.32 (Pyridine:Acetic acid:Water:Butanol [3:8:11:33])  
**Melting Point:** Between 107 - 108°C  
**HPLC:** Shows 100% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	47.06	5.92	0
Found	47.35	5.9	0

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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IUPAC Name: *trans*-4-Hydroxy-2-butenoic acid

**Description:**

Binds to the  $\gamma$ -hydroxybutyric acid (GHB) receptor with higher affinity than GHB itself. May be an endogenous ligand.

**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>4</sub>H<sub>6</sub>O<sub>3</sub>

Batch Molecular Weight: 102.09

Physical Appearance: Light yellow crystalline solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Desiccate at +4°C

**Solubility & Usage Info:**

DMSO to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Vayer *et al*** (1985) Natural occurrence of trans-gamma hydroxycrotonic acid in rat brain. *Biochem.Pharmacol.* **34** 2401. PMID: 4015683.

**Bourguignon *et al*** (1988) Analogues of  $\gamma$ -hydroxybutyric acid. Synthesis and binding studies. *J.Med.Chem.* **31** 893. PMID: 3361576.

**Hechler *et al*** (1993) Gamma hydroxybutyrate ligands possess antidopaminergic and neuroleptic-like activities. *J.Pharmacol.Exp.Ther.* **264** 1406. PMID: 8095552.

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