

Product Name: Dihydrokainic acid

Catalog No.: 0111

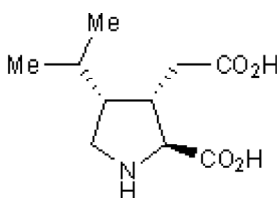
Batch No.: 33

CAS Number: 52497-36-6

IUPAC Name: (2S,3S,4R)-2-Carboxy-4-isopropyl-3-pyrrolidineacetic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₀H₁₇NO₄.
Batch Molecular Weight: 215.25
Physical Appearance: White solid
Solubility: water to 25 mM
Storage: Store at RT
Batch Molecular Structure:



2. ANALYTICAL DATA

¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_D = -33.5 (Concentration = 1, Solvent = Water)
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	55.8	7.96	6.51
Found	55.62	7.94	6.45

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

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Description:

Dihydrokainic acid is a selective EAAT2(GLT1) non-transportable inhibitor of L-glutamate and L-aspartate uptake ($K_i = 23 \mu\text{M}$). Dihydrokainic acid is 130-fold selective over EAAT1 and EAAT3 ($K_i > 3 \text{ mM}$). In [^3H]-d-Asp uptake assays in HEK293 cells expressing human EAAT2, EAAT1 and EAAT3, K_i values are $89 \mu\text{M}$, $> 3 \text{ mM}$ and $> 3 \text{ mM}$, respectively. Respective K_m values in a FLIPR Membrane Potential (FMP) assay, are $31 \mu\text{M}$, $> 3 \text{ mM}$ and $> 3 \text{ mM}$

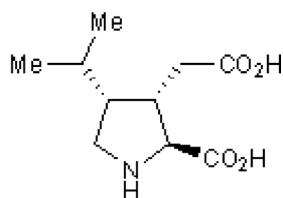
Physical and Chemical Properties:

Batch Molecular Formula: $\text{C}_{10}\text{H}_{17}\text{NO}_4$.

Batch Molecular Weight: 215.25

Physical Appearance: White solid

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 25 mM

When purchased as a 1mg unit, this product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

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. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

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:

Jensen and Bräuner-Osborne (2004) Pharmacological characterization of human excitatory amino acid transporters EAAT1, EAAT2 and EAAT3 in a fluorescence-based membrane potential assay. *Biochem.Pharmacol.* **67** 2115. PMID: 15135308.

Arriza et al (1994) Functional comparisons of three glutamate transporter subtypes cloned from human motor cortex. *J.Neurosci.* **14** 5559. PMID: 7521911.

Kanal et al (1994) The neuronal and epithelial high affinity glutamate transporter, insights into structure and mechanism of transport. *J.Biol.Chem.* **269** 20599. PMID: 7914198.

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