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DATASHEET

Dihydrokainic acid

Product overview

Name	Dihydrokainic acid
Cat No	HB0246
Alternative names	DHK, Dihydrokainate
Biological action	Inhibitor
Description	Competitive, selective EAAT2 inhibitor

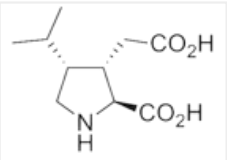
Biological Data

Biological description	Selective EAAT2 (GLT1) inhibitor (K_i = 23 µM). 130-fold selective over EAAT1 and EAAT3 (K_i >3 mM). Twice as potent as kainic acid in inhibiting high affinity L-Glu uptake. Weakly excites neurons.

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in water (25mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	(2*S*,3*S*,4*R*)-2-Carboxy-4-isopropyl-3-pyrrolidineaceticacid
Molecular Weight	215.25
Chemical structure	
Molecular Formula	$C_{10}H_{17}NO_4$
CAS Number	52497-36-6
PubChem identifier	107883
SMILES	O=C(C[C@H]1[C@@H]([C@H](C)C)CN[C@@H]1[C@](O)=O)O
Source	Synthetic
InChi	InChI=1S/C10H17NO4/c1-5(2)7-4-11-9(10(14)15)6(7)3-8(12)13/h5-7,9,11H,3-4H2,1-2H3,(H,12,13)(H,14,15)/t6-,7+,9-/m0/s1
InChiKey	JQPDCKOQOOQUSC-OOZYFLPDSA-N
MDL number	MFCD03412037
Appearance	White solid

References

Functional comparisons of three glutamate transporter subtypes cloned from human motor cortex.

Arriza JL *et al* (1994) J Neurosci 14(9)

PubMedID 7521911

A microdialysis study in rat brain of dihydrokainate, a glutamate uptake inhibitor.

Fallgren AB *et al* (1996) Neurochem Res 21(1)
PubMedID 8833219

Effect of dihydrokainate on the capacity of repair of DNA damage and apoptosis induced by doxorubicin.

Attia SM *et al* (2013) Mutagenesis 28(3)
PubMedID 23360835

Kainic acid, AMPA, and dihydrokainic acid effect on uptake and efflux of D-[3H] aspartic acid in cerebellar slices.

Bouazzaoui M *et al* (1996) Neurochem Res 21(12)
PubMedID 8953569