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DATASHEET

Ifenprodil

Product overview

Name	Ifenprodil
Cat No	HB0339
Biological action	Antagonist
Purity	>99%
Description	Non-competitive GluN2B subunit selective NMDAR allosteric inhibitor

Images



Biological Data

Biological description

Ifenprodil is a non-competitive, voltage-independent GluN2B subunit selective NMDA receptor allosteric inhibitor ($IC_{50} = 0.15 \mu M$).

It is selective over GluN2A (NR2A), GluN2C (NR2C) and GluN2D (NR2D) subunits (IC_{50} values are $>30 \mu M$).

Ifenprodil is thought to bind at the interface of the GluN1/2B NTD (ATD) (N-terminal domain).

Ifenprodil is commonly used to distinguish between GluN2B- and GluN2A- containing NMDARs in synaptic and extrasynaptic membranes.

Ifenprodil also shows use dependence in which binding of **glutamate** increases binding of ifenprodil and vice versa.

Shows neuroprotective effects and protects neurons against glutamate excitotoxicity in an activity-dependent manner.

Solubility & Handling

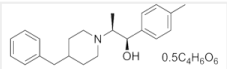
Storage instructions Solubility overview Important

Room temperature
Soluble in water (15mM, gentle warming)
This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not

Storage instructions

Room temperature
for human or veterinary use.

Chemical Data

Chemical name	(1 <i>R</i> *,2 <i>S</i> *)-erythro-2-(4-Benzylpiperidino)-1-(4-hydroxyphenyl)-1-propanol hemitartrate
Molecular Weight	400.49
Chemical structure	
Molecular Formula	C ₂₁ H ₂₇ NO ₂ ·1/2C ₄ H ₆ O ₆
CAS Number	23210-58-4
PubChem identifier	656586
SMILES	CC(C(C1=CC=C(C=C1)O)O)N2CCC(CC2)CC3=CC=CC=C3.CC(C(C1=CC=C(C=C1)O)O)N2CCC(C2)CC3=CC=CC=C3.[C@@H]([C@H](C(=O)O)O)(C(=O)O)O
InChi	InChI=1S/2C21H27NO2.C4H6O6/c2*1-16(21(24)19-7-9-20(23)10-8-19)22-13-11-18(12-14-22)15-17-5-3-2-4-6-17;5-1(3(7)8)2(6)4(9)10/h2*2-10,16,18,21,23-24H,11-15H2,1H3;1-2,5-6H,(H,7,8)(H,9,10)/t;;1-,2-/m..1/s1
InChiKey	DMPRDSPPYMZQBT-CEAXSRTFSA-N
MDL number	MFCD01529999

References

Ifenprodil, a novel NMDA receptor antagonist: site and mechanism of action.

Williams K (2001) Curr Drug Targets 2(3)

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Ifenprodil is a novel type of NMDA receptor antagonist: interaction with polyamines.

Reynolds IJ *et al* (1989) Mol Pharmacol 36(5)

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Age and activation determines the anticonvulsant effect of ifenprodil in rats.

Mareš P (2014) Naunyn Schmiedeberg's Arch Pharmacol 387(8)

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Ifenprodil effects on GluN2B-containing glutamate receptors.

Amico-Ruvio SA *et al* (2012) Mol Pharmacol 82(6)

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