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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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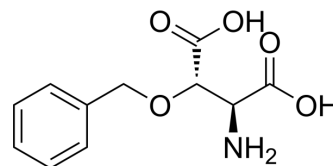
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DL-TBOA

Cat. No.:	HY-107522
CAS No.:	205309-81-5
Molecular Formula:	C ₁₁ H ₁₃ NO ₅
Molecular Weight:	239.23
Target:	EAAT
Pathway:	Membrane Transporter/Ion Channel
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 200 mg/mL (836.02 mM; Need ultrasonic)
 H₂O : 5 mg/mL (20.90 mM; ultrasonic and warming and heat to 60°C)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		4.1801 mL	20.9004 mL	41.8008 mL
	5 mM		0.8360 mL	4.1801 mL	8.3602 mL
	10 mM		0.4180 mL	2.0900 mL	4.1801 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 5 mg/mL (20.90 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 5 mg/mL (20.90 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 5 mg/mL (20.90 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DL-TBOA is a potent non-transportable inhibitor of excitatory amino acid transporters with IC₅₀s of 70 μM, 6 μM and 6 μM for excitatory amino acid transporter-1 (EAAT1), EAAT2 and EAAT3, respectively. DL-TBOA inhibits the uptake of [¹⁴C]glutamate in COS-1 cells expressing the human EAAT1 and EAAT2 with K_i values of 42 μM and 5.7 μM, respectively. DL-TBOA blocks EAAT4 and EAAT5 in a competitive manner with K_i values of 4.4 μM and 3.2 μM, respectively^{[1][2][3]}.

IC₅₀ & Target

EAAT1	EAAT2	EAAT3
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In Vitro	DL-TBOA (70-350 μ M; 48 hours; HCT116 and LoVo cell lines) treatment concentration-dependently enhances SN38-induced loss of viability. DL-TBOA reversed Oxaliplatin-induced loss of viability ^[4] .	
	DL-TBOA (350 μ M; 24 hours; HCT116 and LoVo cell lines) treatment decreases p53 induction by SN38 and oxaliplatin ^[4] .	
	MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Cell Viability Assay ^[4]	
	Cell Line:	HCT116 and LoVo cell lines
	Concentration:	70 μ M, 350 μ M
	Incubation Time:	48 hours
	Result:	Enhanced SN38-induced, and counteracted Oxaliplatin-induced, cell death.
	Cell Viability Assay ^[4]	
	Cell Line:	HCT116 and LoVo cell lines
In Vivo	Concentration:	350 μ M
	Incubation Time:	24 hours
	Result:	p53 induction by SN38 and oxaliplatin was decreased.
	DL-TBOA (10 nmol; i.c.v., rats) significantly facilitates the expression of naloxone-precipitated somatic signs and conditioned place aversion ^[5] .	
	MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	Male Sprague-Dawley rats (180-250 g) ^[5]
	Dosage:	1 nmol, 3 nmol, 10 nmol
	Administration:	Intracerebroventricularly injection (i.c.v.)
	Result:	Dose dependently facilitated various somatic signs induced by Naloxone (0.1 mg/kg).

REFERENCES

- [1]. Yumiko Sekiya, et al. Facilitation of morphine withdrawal symptoms and morphine-induced conditioned place preference by a glutamate transporter inhibitor DL-threo-beta-benzyloxyaspartate in rats. *Eur J Pharmacol.* 2004 Feb 6;485(1-3):201-10.
- [2]. Shimamoto K, et al. DL-threo-beta-benzyloxyaspartate, a potent blocker of excitatory amino acid transporters. *Mol Pharmacol.* 1998 Feb;53(2):195-201.
- [3]. Jabaudon D, et al. Inhibition of uptake unmasks rapid extracellular turnover of glutamate of nonvesicular origin. *Proc Natl Acad Sci U S A.* 1999 Jul 20;96(15):8733-8.
- [4]. Shigeri Y, et al. Effects of threo-beta-hydroxyaspartate derivatives on excitatory amino acid transporters (EAAT4 and EAAT5). *J Neurochem.* 2001 Oct;79(2):297-302.
- [5]. Pedraz-Cuesta E, et al. The glutamate transport inhibitor DL-Threo- β -Benzyloxyaspartic acid (DL-TBOA) differentially affects SN38- and oxaliplatin-induced death of drug-resistant colorectal cancer cells. *BMC Cancer.* 2015 May 16;15:411.

Caution: Product has not been fully validated for medical applications. For research use only.

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