7-BIA

Cat. No.: HY-115496

CAS No.: 1313403-49-4

Molecular Formula: $C_{15}H_{18}O_6$

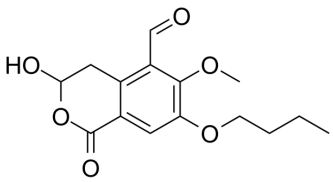
Molecular Weight: 294

Target: Phosphatase

Pathway: Metabolic Enzyme/Protease

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 : 125 mg/mL (425.17 mM; Need ultrasonic)
Ethanol : 50 mg/mL (170.07 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.4014 mL	17.0068 mL	34.0136 mL
5 mM	0.6803 mL	3.4014 mL	6.8027 mL
10 mM	0.3401 mL	1.7007 mL	3.4014 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 6.25 mg/mL (21.26 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 6.25 mg/mL (21.26 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (21.26 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

7-BIA is a receptor-type protein tyrosine phosphatase D (PTPRD) inhibitor with an IC_{50} of ~1-3 μM[1].

IC_{50} & Target

IC50: ~1-3 μM (PTPRD), 40 μM (PTPRS)[1]

In Vitro

7-BIA (7-butoxy illudalic acid analog) inhibits recombinant human PTPRD and recombinant human PTPRS with IC_{50} values of ~1–3 μM and 40 μM, respectively[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	7-BIA (10-20 mg/kg; given i.p.; only once) reduces cocaine self-administration in highly experienced WT mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	WT mice (available cocaine 50 times, 1 mg/kg infusions on FR1 schedule during ≥20 prior sessions)[1]
Dosage:	10 mg/kg, 20 mg/kg
Administration:	Given i.p.; only once
Result:	Reduced cocaine self-administration in highly experienced WT mice.

REFERENCES

[1]. Uhl GR, et al. Cocaine reward is reduced by decreased expression of receptor-type protein tyrosinephosphatase D (PTPRD) and by a novel PTPRD antagonist. Proc Natl Acad Sci U S A. 2018 Nov 6;115(45):11597-11602.

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

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