Erucic acid

Cat. No.: HY-N7109

CAS No.: 112-86-7

Molecular Formula: $C_{22}H_{42}O_2$

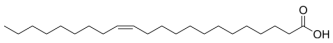
Molecular Weight: 338.57

Target: PI3K; Endogenous Metabolite

Pathway: PI3K/Akt/mTOR; Metabolic Enzyme/Protease

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (295.36 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
	1 mM	2.9536 mL	14.7680 mL	29.5360 mL
	5 mM	0.5907 mL	2.9536 mL	5.9072 mL
	10 mM	0.2954 mL	1.4768 mL	2.9536 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: ≥ 2.5 mg/mL (7.38 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (7.38 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.38 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Erucic acid, a monounsaturated fatty acid (MUFA), is isolated from the seed of Raphanus sativus L. Erucic acid can readily cross the blood-brain barrier (BBB), it has been reported to normalize the accumulation of very long-chain fatty acids in the brain. Erucic acid can improve cognitive impairment and be effective against dementia[1].

In Vivo

Erucic acid (oral administration; 3 mg/kg) enhances the phosphorylation level of PI3K, PKCζ, ERK, CREB and Akt in the hippocampus compared with that in the vehicle-treated control group[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Normal naïve mice[1]
Dosage:	3 mg/kg
Administration:	Oral administration; 3 mg/kg
Result:	Enhanced the phosphorylation level of PI3K, PKCζ, ERK, CREB and Akt in the hippocampus.

REFERENCES

[1]. Kim E, et al. The memory-enhancing effect of erucic acid on scopolamine-induced cognitive impairment in mice. Pharmacol Biochem Behav. 2016 Mar;142:85-90.

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