(R)-(-)-Ibuprofen

Cat. No.: HY-78131B

CAS No.: 51146-57-7

Molecular Formula: $C_{13}H_{18}O_2$

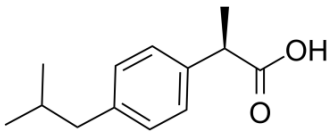
Molecular Weight: 206.28

Target: NF-κB

Pathway: NF-κB

Storage:

Powder	-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 (484.78 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.8478 mL	24.2389 mL	48.4778 mL
5 mM	0.9696 mL	4.8478 mL	9.6956 mL
10 mM	0.4848 mL	2.4239 mL	4.8478 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 (12.12 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (12.12 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.12 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(R)-(-)-Ibuprofen is the R enantiomer of Ibuprofen, inactive on COX, inhibits NF-κB activation; (R)-(-)-Ibuprofen exhibits anti-inflammatory and antinociceptive effects.

IC_{50} & Target

NF-κB

In Vitro	(R)-(-)-Ibuprofen is the R enantiomer of Ibuprofen, with no inhibitory effect on COX, but is involved in pathways of lipid metabolism and is incorporated into triglycerides along with endogenous fatty acids[1]. (R)-(-)-Ibuprofen (1 μM) significantly reduces NF-κB activation and completely prevents NF-κB induction at 10 μM. (R)-(-)-Ibuprofen inhibits NF-κB luciferase activity with an IC_{50} of 121.8 μM, weaker than that of S(+)-ibuprofen (IC_{50}, 61.7 μM). Furthermore, (R)-(-)-Ibuprofen (10 mM) has no effect on HSF[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Evans AM, et al. Comparative pharmacology of S(+)-ibuprofen and (RS)-ibuprofen. Clin Rheumatol. 2001 Nov;20 Suppl 1:S9-14.

[2]. Scheuren N, et al. Modulation of transcription factor NF-kappaB by enantiomers of the nonsteroidal drug ibuprofen. Br J Pharmacol. 1998 Feb;123(4):645-52.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA