Arachidonic acid

Cat. No.: HY-109590

CAS No.: 506-32-1

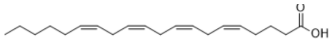
Molecular Formula: $C_{20}H_{32}O_2$

Molecular Weight: 304.47

Target: Endogenous Metabolite

Pathway: Metabolic Enzyme/Protease

Storage: -20°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

Ethanol : 100 mg/mL (328.44 mM; Need ultrasonic)
DMSO : 100 mg/mL (328.44 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.2844 mL	16.4220 mL	32.8440 mL
5 mM	0.6569 mL	3.2844 mL	6.5688 mL
10 mM	0.3284 mL	1.6422 mL	3.2844 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 10 mg/mL (32.84 mM); Suspended solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.21 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.83 mM); Clear solution

BIOLOGICAL ACTIVITY

Description Arachidonic acid is an essential fatty acid and a major constituent of biomembranes.

IC_{50} & Target Human Endogenous Metabolite

In Vivo Arachidonic acid can be used in animal modeling to construct a rat paw edema model.

Arachidonic acid (ARA) is converted into various lipid mediators, such as prostaglandin E_2 (PGE_2), which is involved in the development of rheumatoid arthritis (RA)[1].

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

CUSTOMER VALIDATION

- Gut Microbes. 2023 Dec;15(2):2265578.
- Redox Biol. 2023 Aug 18;66:102857.
- Redox Biol. 15 October 2021, 102168.
- Cell Death Dis. 2023 Jun 13;14(6):359.
- Cell Death Dis. 2020 Sep 15;11(9):756.

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REFERENCES

[1]. Tateishi N, et al. Dietary supplementation with arachidonic acid increases arachidonic acid content in paw, but does not affect arthritis severity or prostaglandin E2 content in rat adjuvant-induced arthritis model. Lipids Health Dis. 2015 Jan 16;14:3.

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