(Z)-2-Decenoic acid

Cat. No.: HY-13212

CAS No.: 15790-91-7

Molecular Formula: $C_{10}H_{18}O_2$

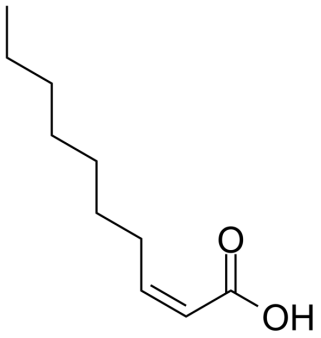
Molecular Weight: 170.25

Target: Others

Pathway: Others

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (1468.43 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.8737 mL	29.3686 mL	58.7372 mL
	5 mM	1.1747 mL	5.8737 mL	11.7474 mL
	10 mM	0.5874 mL	2.9369 mL	5.8737 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 (36.71 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 6.25 mg/mL (36.71 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (36.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(Z)-2-decenoic acid (cis-2-Decenoic acid) is an unsaturated fatty acid produced by Pseudomonas aeruginosa. (Z)-2-decenoic acid induces a dispersion response in biofilms formed by a range of gram-negative bacteria, including P. aeruginosa, and by gram-positive bacteria. (Z)-2-decenoic acid inhibits biofilm development[1].

In Vitro

When added exogenously to P. aeruginosa PAO1 biofilms at a native concentration of 2.5 nM, (Z)-2-decenoic acid (cis-2-Decenoic acid) is shown to induce the dispersion of biofilm microcolonies[1].

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

REFERENCES

[1]. David G Davies, et al. A fatty acid messenger is responsible for inducing dispersion in microbial biofilms. J Bacteriol. 2009 Mar;191(5):1393-403.

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