Hexyl gallate

Cat. No.: HY-135652

CAS No.: 1087-26-9

Molecular Formula: $C_{13}H_{18}O_5$

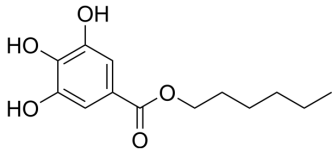
Molecular Weight: 254.28

Target: Parasite; Bacterial

Pathway: Anti-infection

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 : 41.67 mg/mL (163.87 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9327 mL	19.6634 mL	39.3267 mL
	5 mM	0.7865 mL	3.9327 mL	7.8653 mL
	10 mM	0.3933 mL	1.9663 mL	3.9327 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: ≥ 2.08 mg/mL (8.18 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (8.18 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (8.18 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Hexyl gallates (Hexyl 3,4,5-trihydroxybenzoate) shows antibacterial activity and inhibits the production of rhamnolipid and pyocyanin by inhibiting RhlR[1]. Hexyl gallate, a alkyl ester derivative of gallic acid, exhibits potent antimalarial activity against Plasmodium falciparum, with IC_{50} of 0.11 mM[2].

IC_{50} & Target

Plasmodium

In Vitro

Hexyl gallates (Hexyl 3,4,5-trihydroxybenzoate) inhibits only Rhl-dependent production of rhamnolipid and pyocyanin by

inhibiting RhlR, without affecting elastase production and biofilm formation which are regulated by the Las system.Hexyl gallates inhibits pigment production at 10-30 μM, but also exhibited antibacterial activity. Hexyl gallates also exhibits antibacterial activity against CV026 cells. Hexyl gallates inhibits only N-butanoyl homoserine lactone (BHL) production at 100 and 300 μM without affecting N-(3-oxododecanoyl)-l-homoserine lactone (OdDHL) and 2-heptyl-3-hydroxy-4(1 H) quinolone (PQS) production[1].

Hexyl gallates, an antimicrobial alternative to copper compounds, inhibits Xanthomonas citri growth in a dose-response manner, showing a more pronounced activity at the range of 30-50 μg/ml, and it targets the membrane of X. citri[3].

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

REFERENCES

[1]. Ade Arsianti, et al. Synthesis and in vitro antimalarial activity of alkyl esters of gallate as a growth inhibitor of plasmodium falciparum. Oriental Journal of Chemistry, 34(2), 655-662.

[2]. Kim B, et al. Differential effects of alkyl gallates on quorum sensing in Pseudomonas aeruginosa. Sci Rep. 2019;9(1):7741. Published 2019 May 23.

[3]. Cavalca LB, et al. Hexyl gallate for the control of citrus canker caused by Xanthomonas citri subsp citri [published online ahead of print, 2020 Aug 6]. Microbiologyopen. 2020;e1104.

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