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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
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Lapachol

Cat. No.: HY-N6961

CAS No.: 84-79-7

Molecular Formula: $C_{15}H_{14}O_3$

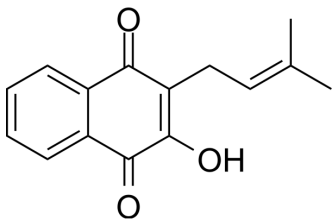
Molecular Weight: 242.27

Target: Parasite; Dihydroorotate Dehydrogenase; DNA/RNA Synthesis

Pathway: Anti-infection; Metabolic Enzyme/Protease; Cell Cycle/DNA Damage

Storage: 4°C, stored under nitrogen

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 66.67 mg/mL (275.19 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.1276 mL	20.6381 mL	41.2763 mL
	5 mM	0.8255 mL	4.1276 mL	8.2553 mL
	10 mM	0.4128 mL	2.0638 mL	4.1276 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 (10.32 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Lapachol, a natural naphthoquinone, is an orally active, potent DHODH inhibitor. Lapachol has immunosuppressive activity on lymphocytes through its direct ability to block DHODH activity and inhibit pyrimidine synthesis. Lapachol is a vitamin K antagonist with antitumor activity and can inhibit DNA and RNA synthesis in neoplastic cells. Lapachol has anti-Leishmania activity[1][2][3].

IC_{50} & Target	Plasmodium	Leishmania

In Vitro

Lapachol (10, 30, 100 μM; 4 days) inhibits lymphocyte proliferation through inhibition of pyrimidine biosynthesis[1].

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

Cell Proliferation Assay[1]

Cell Line:	Murine CD4 T cells

Concentration:	10, 30, 100 μM
Incubation Time:	4 days
Result:	Inhibited the proliferation of murine CD4 T cells in a dose-dependent manner.

In Vivo

Lapachol (3 mg/kg and 10 mg/kg; orally; once a day for 4 weeks) reduces the severity of experimental arthritis in CIA mice models[1].

Lapachol (10 mg/kg; orally; once a day over 9 days) exhibits a remarkable reduction in leucocyte infiltration into the knee joint 6 h after mBSA challenge in male C57BL/6 mice (6 weeks old) with antigen-induced arthritis (AIA)[1].

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

Animal Model:	Male DBA1/J mice (10-12 weeks old) with collagen-induced arthritis (CIA) models[1]
Dosage:	3 mg/kg and 10 mg/kg
Administration:	Orally; once a day for 4 weeks
Result:	Markedly attenuated the severity of arthritis in CIA mice at both doses. Markedly reduced all histopathological features of arthritis severity.

CUSTOMER VALIDATION

- bioRxiv. 2023 Jun 3.

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REFERENCES

[1]. Iasmin Aparecida Cunha Araújo, et al. Efficacy of lapachol on treatment of cutaneous and visceral leishmaniasis. Exp Parasitol. 2019 Apr:199:67-73.

[2]. Raphael S Peres, et al. Lapachol, a compound targeting pyrimidine metabolism, ameliorates experimental autoimmune arthritis. Arthritis Res Ther. 2017 Mar 7;19(1):47.

[3]. Masayo Maeda, et al. Promotion or suppression of experimental metastasis of B16 melanoma cells after oral administration of lapachol. Toxicol Appl Pharmacol. 2008 Jun 1;229(2):232-8.

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