Artefenomel

Cat. No.: HY-16762

CAS No.: 1029939-86-3

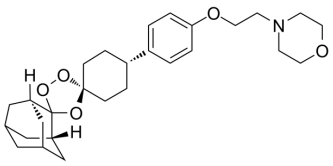
Molecular Formula: $C_{28}H_{39}NO_5$

Molecular Weight: 469.61

Target: Parasite; Ferroptosis; SARS-CoV

Pathway: Anti-infection; Apoptosis

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

DMSO : 4.2 mg/mL (8.94 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1294 mL	10.6471 mL	21.2943 mL
	5 mM	0.4259 mL	2.1294 mL	4.2589 mL
	10 mM	---	---	---

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

BIOLOGICAL ACTIVITY

Description

Artefenomel (OZ439) is an orally active, synthetic anti-malarial compound containing an artemisinin pharmacophore with a mechanism of action similar to that of artemisinin. Artefenomel has antiviral activity against SARS-CoV-2[1][2].

In Vitro

Artefenomel (OZ439) (10 μg/mL, 2 h) can alkylate Plasmodium falciparum proteins[1].
Artefenomel (0.3-300 μM) reduces ACE2 expression in Vero cells in a dose-dependent manner and does not induce any cytotoxicity at concentrations up to 300 μM[2].
Artefenomel (33-100 μM) can completely prevent the virus-induced CPE and inhibit SARS-CoV-2 in a dose-dependent manner with an IC_{50} of 2.9 μM[2].
Artefenomel (0-10 μg/mL) affects red blood cells and induces anaemia, thereby inducing histological changes (cell death) and macroscopic abnormalities in the embryo from pregnant Crl:CD(SD)BR rats[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[3]

Cell Line:	embryos from pregnant Crl:CD(SD)BR rats
Concentration:	0.1, 1, 2, 5, 7.5, and 10 μg/mL

Incubation Time:	
Result:	Showed a slightly shortened tail or slightly delayed telencephalic vesicles at 5 μg/mL, a decrease in the number of circulating red blood cells at 7.5 μg/mL and an arrhythmogenic heartbeat at 10 μg/mL.

CUSTOMER VALIDATION

- Vet Parasitol. 2023 Oct 20, 110055.

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REFERENCES

[1]. Joëlle Jourdan, et al. Monoclonal Antibodies That Recognize the Alkylation Signature of Antimalarial Ozonides OZ277 (Arterolane) and OZ439 (Artefenomel). ACS Infect Dis. 2016 Jan 8;2(1):54-61.

[2]. Tania Massignan, et al. Antimalarial Artefenomel Inhibits Human SARS-CoV-2 Replication in Cells while Suppressing the Receptor ACE2.

[3]. Robert L Clark, et al. Improved safety margin for embryotoxicity in rats for the new endoperoxide artefenomel (OZ439) as compared to artesunate. Birth Defects Res. 2018 Apr 17;110(7):553-578.

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