Umifenovir

Cat. No.: HY-14904

CAS No.: 131707-25-0

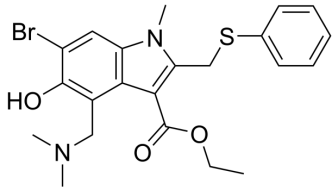
Molecular Formula: $C_{22}H_{25}BrN_2O_3S$

Molecular Weight: 477.41

Target: SARS-CoV; Influenza Virus

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (104.73 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0946 mL	10.4732 mL	20.9464 mL
	5 mM	0.4189 mL	2.0946 mL	4.1893 mL
	10 mM	0.2095 mL	1.0473 mL	2.0946 mL

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

BIOLOGICAL ACTIVITY

Description

Umifenovir is a potent, orally active broad-spectrum antiviral agent with activity against a number of enveloped and non-enveloped viruses. Umifenovir is used as an anti-influenza virus agent. Umifenovir could effectively inhibit the fusion of virus with host cells[1][2]. Umifenovir is an efficient inhibitor of SARS-CoV-2 in vitro[2]. Umifenovir shows anti-inflammatory activity [3].

In Vitro

Umifenovir exhibits a wide range and potent antiviral activity against a number of viruses including influenza viruses A, B and C, respiratory syncytial virus, SARS-CoV, adenovirus, parainfluenza type 5, poliovirus 1, rhinovirus 14, coxsackievirus B5, hantaan virus, Chikungunya virus, HBV and HCV[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Umifenovir (25 and 45 mg/ml; p.o.) shows a survival benefit to mice suffering from influenza infection[3].
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Animal Model:	BALB/c mice (6–8 weeks old), mice were intranasally (i.n.) inoculated with 2 times the 50% mouse lethal dose (MLD_{50}) of A/ Guangdong/GIRD07/09 (H1N1) ($10^{4.5}TCID_{50}$/mL) in a

	volume of 20mL[3].
Dosage:	1.25 mg/mL (25 mg/kg/day) and 2.25 mg/mL (45 mg/kg/day) in a total volume of 500mL at one day pre-infection and 3 days post-infection (dpi)
Administration:	Oral administration
Result:	Increased the survival rate, inhibited the decrease of body weight at 45 mg/mL and inhibited the increase of mice lung index at 25 mg/mL and 45 mg/mL comparing to virus group.

CUSTOMER VALIDATION

- Signal Transduct Target Ther. 2021 Apr 24;6(1):165.
- Nucleic Acids Res. 2021 Jan 8;49(D1):D1113-D1121.
- Mbio. 2022 Feb 1;13(1):e0304421.
- Viruses. 2021, 13(8).
- Viruses. 2019 Jul 20;11(7):665.

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REFERENCES

[1]. Julie Blaising, et al. Arbidol as a broad-spectrum antiviral: an update. Antiviral Res. 2014 Jul;107:84-94. doi: 10.1016/j.antiviral.2014.04.006. Epub 2014 Apr 24.

[2]. Irina Leneva, et al. Antiviral Activity of Umifenovir In Vitro against a Broad Spectrum of Coronaviruses, Including the Novel SARS-CoV-2 Virus. Viruses. 2021 Aug 23;13(8):1665.

[3]. Yutao Wang, et al. Inhibition of the infectivity and inflammatory response of influenza virus by Arbidol hydrochloride in vitro and in vivo (mice and ferret). Biomed Pharmacother. 2017 Jul;91:393-401.

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