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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Amenamevir

Cat. No.: HY-14809

CAS No.: 841301-32-4

Molecular Formula: $C_{24}H_{26}N_4O_5S$

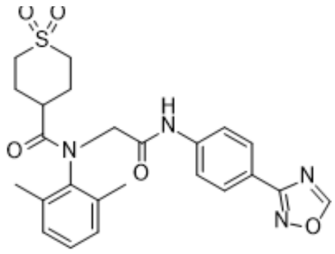
Molecular Weight: 482.55

Target: HSV

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 50 mg/mL (103.62 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0723 mL	10.3616 mL	20.7232 mL
	5 mM	0.4145 mL	2.0723 mL	4.1446 mL
	10 mM	0.2072 mL	1.0362 mL	2.0723 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 (4.31 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.31 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.31 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Amenamevir is a helicase-primase inhibitor which has potent antiviral activity against HSVs with an EC_{50} of 14 ng/mL.

IC_{50} & Target

HSV-1	HSV-2
7.7-20 ng/mL (IC_{50})	15-58 ng/mL (IC_{50})

In Vitro

Amenamevir (ASP2151) inhibits the replication of the HSV strains isolated in Japan and the United States as well as the

	laboratory-stocked strains. The mean EC_{50}s of Amenamevir against HSV-1 and HSV-2 are 14 (range, 7.7 to 20) and 30 ng/mL (range, 15 to 58), respectively, whereas those of acyclovir (ACV) are 29 (range, 18 to 38) and 71 ng/mL (range, 45 to 95), respectively. The EC_{50}s of Amenamevir against HSV strains are significantly lower than those of ACV[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Amenamevir (ASP2151) administration accelerates the reduction in virus titer in a dose-dependent manner in the range of 3 to 30 mg/kg/day. Amenamevir treatment decreases both lesion scores and HSV-1 titers in a dose-dependent manner, irrespective of the dosing interval. Based on the correlation curves, the PK parameters at which HSV-1 growth is completely suppressed by oral administration of Amenamevir are estimated to be 10,000 ng/mL or higher for the maximum concentration of drug in serum (C_{max}), 60 μg • h/ml or higher for concentration-time curve over 24 h (AUC_{24h}), and 21 to 24 h for $T_{>100}$. The mean concentration of Amenamevir in plasma at 5 days postinfection increases in a dose-dependent manner, with doses of 3 mg Amenamevir/g or higher significantly reducing the intradermal HSV-1 titer[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	The antiviral activities of Amenamevir (ASP2151) and ACV against HSVs are tested using a plaque reduction assay. Briefly, HEF cells are seeded into multi well plates and incubated until they form a monolayer. After the medium is removed, the cells are infected with HSV-1 or HSV-2, and the plates are further incubated for 1 h at 37°C. The cells are washed twice with maintenance medium and then treated with the test compound (including Amenamevir) until clear plaques appear. The cells are then fixed with 10% formalin in phosphate-buffered saline, stained with a 0.02% crystal violet solution, and the number of plaques is determined under a light microscope. The EC_{50}, which represents the concentration of test compound needed to reduce the plaque number by 50%, is calculated using nonlinear regression analysis with a sigmoid-maximum effect (E_{max}) model[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [1]	Female hairless mice (HOS:HR-1, 7 to 8 weeks old) are infected with a suspension of HSV-1 strain WT51 (15 μL/mouse; titer, 2×10^8 PFU/mL) or CI-116 (15 μL/mouse; titer, 4×10^7 PFU/mL) in the dorsolateral skin stripped as a small square using a needle, under anesthesia. The day of HSV-1 infection is designated day zero postinfection. Total daily doses of 1, 3, 10, 30, or 100 mg/kg/day ASP2151 are orally administered to HSV-1-infected mice (n=5) for 5 days. Amenamevir (ASP2151) treatments are started 2 to 3 h after HSV infection either as a single daily dose (every 24 h, q24h) or as two (every 12 h, q12h) or three (every 8 h, q8h) divided doses. Lesion scores and intradermal HSV-1 titers are measured on day 5 postinfection[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Katsumata K, et al. Pharmacokinetics and pharmacodynamics of ASP2151, a helicase-primase inhibitor, in a murine model of herpes simplex virus infection. Antimicrob Agents Chemother. 2013 Mar;57(3):1339-46.

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