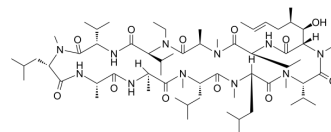


Alisporivir

Cat. No.:	HY-12559
CAS No.:	254435-95-5
Molecular Formula:	C ₆₃ H ₁₁₃ N ₁₁ O ₁₂
Molecular Weight:	1216.64
Target:	HCV
Pathway:	Anti-infection
Storage:	Stored under nitrogen
	Powder -80°C 2 years
	-20°C 1 year
	* In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (82.19 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	0.8219 mL	4.1097 mL	8.2194 mL
	5 mM	0.1644 mL	0.8219 mL	1.6439 mL
	10 mM	0.0822 mL	0.4110 mL	0.8219 mL

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

In Vivo

- Add each solvent one by one: 5% DMSO >> 40% PEG300 >> 5% Tween-80 >> 50% saline
 Solubility: ≥ 2.62 mg/mL (2.15 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (2.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Alisporivir (Debio-025) is a cyclophilin inhibitor molecule with potent anti-hepatitis C virus (HCV) activity.

In Vitro

DEB025 binds to CypA, a peptidyl-prolyl cis-trans isomerase which is a crucial cofactor for HCV replication^[1]. Alisporivir (Debio-025) represents the prototype of a new class of non-immunosuppressive cyclophilin inhibitors. Alisporivir prevents HCV protein-mediated collapse of the respiration-driven mitochondrial membrane potential. Alisporivir prevents HCV protein-mediated mitochondrial dysfunction outside the context of apoptosis, calcium overload, production of ROS, dysfunction^[2]. In cell culture models, low-micromolar doses of alisporivir block SARS-CoV and MERS-CoV replication. Combination treatment with Alisporivir and ICN-1229 increases the anti-MERS-CoV activity in cell culture^[3]. Alisporivir pretreatment stimulates antigen presentation by hepatoma target cells, leading to enhancement of antigen-specific CD8+ T

	<p>cell activation by 40%. Alisporivir induces an increase of MHC-I and beta-2 microglobulin on the surface of several cell lines [4].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>
In Vivo	<p>Combination treatment with Alisporivir and ICN-1229 does not protect against SARS-CoV infection in a mouse model^[3].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

PROTOCOL

Cell Assay ^[2]

Alisporivir is prepared in DMSO at 4 mM and diluted in cell culture medium at the indicated concentrations (0.1, 0.2, 0.3, 0.4, 0.5 μM). UHCV-32 and UHCVcon-57.3 are U-2 OS human osteosarcoma-derived cell lines inducibly expressing the entire open reading frame derived from the HCV H77 prototype and consensus clones, respectively. Cell viability is measured by trypan blue exclusion analysis^[2].

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

CUSTOMER VALIDATION

- J Exp Med. 2021 Apr 5;218(4):e20202207.
- Cell Rep. 2021, 108959.
- Cell Signal. 2019 Sep;61:57-65.
- PLoS One. 2021 May 20;16(5):e0251934.
- Nature Aging. 1, 506–520 (2021).

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REFERENCES

- [1]. Coelmont L, et al. DEB025 (Alisporivir) inhibits hepatitis C virus replication by preventing a cyclophilin A induced cis-trans isomerisation in domain II of NS5A. PLoS One. 2010 Oct 27;5(10):e13687.
- [2]. Quarato G, et al. The cyclophilin inhibitor alisporivir prevents hepatitis C virus-mediated mitochondrial dysfunction. Hepatology. 2012 May;55(5):1333-43.
- [3]. de Wilde AH, et al. Alisporivir inhibits MERS- and SARS-coronavirus replication in cell culture, but not SARS-coronavirus infection in a mouse model. Virus Res. 2017 Jan 15;228:7-13.
- [4]. Esser-Nobis K, et al. The cyclophilin-inhibitor alisporivir stimulates antigen presentation thereby promoting antigen-specific CD8(+) T cell activation. J Hepatol. 2016 Jun;64(6):1305-14.

Caution: Product has not been fully validated for medical applications. For research use only.

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