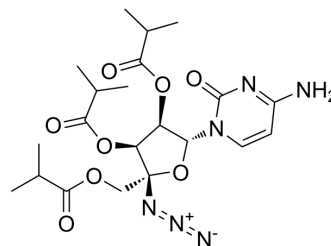


Balafiravir

Cat. No.:	HY-10443		
CAS No.:	690270-29-2		
Molecular Formula:	C ₂₁ H ₃₀ N ₆ O ₈		
Molecular Weight:	494.50		
Target:	HCV; DNA/RNA Synthesis		
Pathway:	Anti-infection; Cell Cycle/DNA Damage		
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 : ≥ 100 mg/mL (202.22 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.0222 mL	10.1112 mL	20.2224 mL
	5 mM	0.4044 mL	2.0222 mL	4.0445 mL
	10 mM	0.2022 mL	1.0111 mL	2.0222 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (5.06 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (5.06 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (5.06 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Balafiravir (Ro 4588161; R1626) is an orally active proagent of a nucleoside analogue inhibitor of the RNA-dependent RNA polymerase (RdRp) of HCV (R1479; 4'-Azidocytidine). Balafiravir has anti-HCV activity^{[1][2][3]}. Balafiravir is a click chemistry reagent, it contains an Azide group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAC) with molecules containing Alkyne groups. It can also undergo strain-promoted alkyne-azide cycloaddition (SPAAC) reactions with molecules containing DBCO or BCN groups.

In Vivo

After oral dosing of the CD-1 mice with 28.1 mg/kg of balapiravir (Ro 4588161; R1626), R1479 reaches a C_{max} and a minimum concentration in plasma (C_{min}) of 24.38 μ M and 6.34 μ M, respectively, at 2 h and 24 h postdosing^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Antiviral Res. 2016 Sep;133:119-29.
- J Infect Dis. 2016 Sep 1;214(5):707-11.
- Antiviral Res. 2019 Oct;170:104570.

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REFERENCES

- [1]. Nguyen NM, et al. A randomized, double-blind placebo controlled trial of balapiravir, a polymerase inhibitor, in adult dengue patients. J Infect Dis. 2013 May 1;207(9):1442-1450.
- [2]. Nelson DR, et al. Balapiravir plus peginterferon alfa-2a (40KD)/ribavirin in a randomized trial of hepatitis C genotype 1 patients. Ann Hepatol. 2012 Jan-Feb;11(1):15-31.
- [3]. Yen-Liang Chen, et al. Activation of Peripheral Blood Mononuclear Cells by Dengue Virus Infection Depotentiates Balapiravir. J Virol. 2014 Feb;88(3):1740-7.

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

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