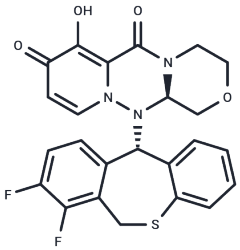
Data Sheet (Cat.No.T14495)

TargetMol

Baloxavir

Chemical Properties



CAS No. : 1985605-59-1

Formula: C24H19F2N3O4S

Molecular Weight: 483.49

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Baloxavir (S-033447) is a first-in-class cap-dependent endonuclease inhibitor of the influenza virus polymerase PA subunit.
Targets(IC50)	Influenza Virus
In vitro	Baloxavir (BXA) inhibits viral RNA transcription via selective inhibition of cap-dependent endonuclease (CEN) activity in enzymatic assays, and inhibits viral replication in infected cells without cytotoxicity in cytopathic effect assays, and it also inhibits cap-dependent endonuclease (CEN) and CEN/RdRp activities with IC50 values of 2.5 nM and 1.6 nM, respectively, while low potency (IC50 >40 nM) is observed against RdRp activity[2]. The median EC50 values at baseline for Baloxavir (BXA) are 17.96 nM for A/H1N1pdm, 4.48 nM for A/H3N2, and 18.67 nM for type B virus[1]. Baloxavir shows high potency against influenza A and B viruses with mean EC90 of 0.46 - 0.98 nM and 2.2-3.4 nM, respectively [2] and it also shows broad potency against various subtypes of influenza A viruses (H1N2, H5N1, H5N2, H5N6, H7N9 and H9N2). Additionally, serial passages of the viruses in the presence of Baloxavir result in isolation of PA/I38T variants with reduced BXA susceptibility[2]. Baloxavir (BXA) has a high inhibitory potency against CEN activity of the tested viral ribonucleoprotein complexes (vRNPs) from influenza A and B viruses with mean IC50 values of 1.4-3.1 nM and 4.5-8.9 nM, respectively, indicating that Baloxavir has broad spectrum activities.

Solubility Information

Solubility	DMSO: 46 mg/mL (95.14 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.14 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0683 mL	10.3415 mL	20.683 mL
5 mM	0.4137 mL	2.0683 mL	4.1366 mL
10 mM	0.2068 mL	1.0341 mL	2.0683 mL
50 mM	0.0414 mL	0.2068 mL	0.4137 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Omoto S, et al. Characterization of influenza virus variants induced by treatment with the endonuclease inhibitor baloxavir marboxil. Sci Rep. 2018 Jun 25;8(1):9633.
Liu K, Li L, Liu Y, et al.Discovery of baloxavir sodium as a novel anti-CCHFV inhibitor: biological evaluation of in vitro and in vivo.Antiviral Research.2024: 105890.
Noshi T, et al. In vitro characterization of baloxavir acid, a first-in-class cap-dependent endonuclease inhibitor of the influenza virus polymerase PA subunit. Antiviral Res. 2018 Dec;160:109-117.