

Molnupiravir

Chemical Properties

CAS No. : 2492423-29-5

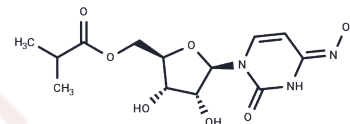
Formula: C₁₃H₁₉N₃O₇

Molecular Weight: 329.31

Store at low temperature

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	Molnupiravir (EIDD-2801) is an isopropyl ester prodrug of the ribonucleoside analog EIDD-1931 with oral bioavailability. Molnupiravir can be used in the study of COVID-19, seasonal and pandemic influenza, and has broad-spectrum antiviral activity against multiple coronaviruses and influenza viruses, such as SARS-CoV-2, MERS-CoV, SARS-CoV.
Targets(IC50)	Influenza Virus,SARS-CoV
In vitro	METHODS: RD, Huh7, and Vero cells were treated with Molnupiravir (MK-4482) (EIDD-2801) (1, 10, 100 μM) for cytopathic effect (CPE) protection assay. RESULTS EIDD-2801 showed stable CPE protection potential in a dose-dependent manner in multiple cell lines infected with EV-A71 virus; the value against EV-A71 virus was 70.12±4.40μM in RD cells; 88.52±3.18μM in Vero cells, and 35.64±0.47μM in Huh7 cells. [1]
In vivo	METHODS: Molnupiravir (MK-4482) (EIDD-2801) (50, 150, or 500 mg/kg, orally, every 12 hours) was used to prophylactically treat mice infected with SARS-CoV and observe its effects in mice. RESULTS Molnupiravir has potent antiviral activity and is able to prevent SARS-CoV replication and disease. [1]

Solubility Information

Solubility	DMSO: 257.5 mg/mL (781.94 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 (6.07 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.0367 mL	15.1833 mL	30.3665 mL
5 mM	0.6073 mL	3.0367 mL	6.0733 mL
10 mM	0.3037 mL	1.5183 mL	3.0367 mL
50 mM	0.0607 mL	0.3037 mL	0.6073 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

Sheahan TP, et al. An orally bioavailable broad-spectrum antiviral inhibits SARS-CoV-2 in human airway epithelial cell cultures and multiple coronaviruses in mice. *Sci Transl Med.* 2020 Apr 29;12(541):eabb5883.

Hydrogen bonding in the crystal structure of molnupiravir Form I, C13H19N3O7

Toots M, et al. Characterization of orally efficacious influenza drug with high resistance barrier in ferrets and human airway epithelia. *Sci Transl Med.* 2019 Oct 23;11(515):eaax5866.

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