Bemnifosbuvir Hemisulfate (AT-527)

Catalog No.C01427 Batch:C0142703

Product Datasheet

Technical Data

Formula	$C_{24}H_{33}FN_7O_7P.{}_{1/2}H_2O_4S$					
Molecular Weight	630.55	**CAS No.**	2241337-84-6			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (158.59 mM)			
		Water	100 mg/mL (158.59 mM)			
		Ethanol	100 mg/mL (158.59 mM)			
	In vivo (Add solvents to the product individually and in order)	Oral Administration	Homogeneous suspension	CMC-NA	≥5mg/ml	Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml.

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

Preparing Stock Solutions

Biological Activity

Description	Bemnifosbuvir Hemisulfate (AT-527, RG-6422, RO 7496998) is a hemi-sulfate salt of AT-511, which is a potent inhibitor of **SARS-CoV-2** with an EC90 of 0.47 μM.
Targets	SARS-CoV-2 [1] 0.47 μM(EC90)
In vitro	Bemnifosbuvir Hemisulfate (AT-527) is the free base of AT-511. This compound inhibits replication of several human coronaviruses, such as HCoV-229E, HCoV-OC43, SARS-CoV in Huh-7 cells and HCoV-229E in BHK-21 cells. It can also inhibits SARS-CoV-2 replication in primary human airway epithelial (HAE) cells. In HBE and HNE cells, it can promote the host cells to form the pharmacologically active TP, AT-9010, to inhibit virus replication.[1]
In vivo	After oral administration of Bemnifosbuvir Hemisulfate (AT-527) in nonhuman primates (NHPs), T-273 has the longest MRT at all dose levels, which indicate the long half-life of the active TP formed intracellularly. This compound is preferentially delivered to the liver, the target organ for HCV infection.[1]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  Huh-7, BHK-21, HBE, HNE cells
- **Concentrations**
  100 μM, 20 μM, 4 μM, 0.8 μM
- **Incubation Time**
  2h, 8 h, 3 days
- **Method**
  将Bemnifosbuvir Hemisulfate (AT-527)稀释液加入96孔板中5个孔，细胞汇合度为80-100%。每个稀释度设三个感染病毒的孔和两个未感染的毒性对照孔。另设六个未经处理的感染孔作为病毒对照，以及六个未经处理的未感染孔作为细胞对照。病毒分别稀释至229E、OC43、MERS和SARS冠状病毒的感染复数（MOI）为0.003、0.002、0.001和0.03 CCID50（50%细胞培养感染剂量）。将培养板置于37°C、含5% CO2的湿润气氛中培养。用中性红染料染色约2小时（±15分钟）。弃去上清染料，用磷酸盐缓冲盐水（PBS）冲洗孔，并在50:50 Sorensen柠檬酸盐缓冲液-乙醇中提取结合的染料，时间超过30分钟。用分光光度计在540 nm波长下读取光密度，并转换为对照百分比。

Animal Study:[1]

- **Animal Models**
  Male nonnaive cynomolgus monkeys
- **Dosages**
  60 mg/kg, 30mg/kg
- **Administration**
  p.o.

References

https://pubmed.ncbi.nlm.nih.gov/33558299/ https://pubmed.ncbi.nlm.nih.gov/34725982/

RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

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