Product Datasheet

Technical Data

Formula	$C_5H_4FN_3O_2$					
Molecular Weight	157.1	**CAS No.**	259793-96-9			
Solubility (25°C)*	In vitro	DMSO	31 mg/mL (197.32 mM)			
		Water	Insoluble			
		Ethanol	Insoluble			
	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

Concentration \ Volume / Mass	1 mg	5 mg	10 mg
1 mM	6.3654 mL	31.8269 mL	63.6537 mL
5 mM	1.2731 mL	6.3654 mL	12.7307 mL
10 mM	0.6365 mL	3.1827 mL	6.3654 mL
50 mM	0.1273 mL	0.6365 mL	1.2731 mL

Biological Activity

Description	Favipiravir (T-705) is a potent and selective **RNA-dependent RNA polymerase** inhibitor, used to treat influenza virus infections.
Targets	RNA-dependent RNA polymerase [1]
In vitro	Favipiravir (T-705) shows anti-influenza virus activities with IC50 ranged from 0.013 to 0.48 μg/ml for the influenza A viruses, from 0.039 to 0.089 μg/ml for the influenza B viruses, and from 0.030 to 0.057 μg/ml for the influenza C viruses. In mammalian cell lines (MDCK cells, Vero cells, HEL cells, A549 cells, HeLa cells, and HEp-2 cells), it shows no cytotoxicity at concentrations up to 1,000 μg/ml. [1] In MDCK cells inoculated with seasonal influenza A (H1N1) viruses, this compound induces lethal mutagenesis. [2]
In vivo	Favipiravir (T-705) protects influenza virus-infected mice from death when administered at 200 mg/kg/day (p.o.).[1] In mice experimentally infected with Ebola virus, this compound efficiently blocks viral production, reaching an antiviral effectiveness of 95% and 99.6% at 2 and 6 days after initiation of treatment, respectively.[3]

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  MDCK cells, Vero cells, HEL cells, A549 cells, HeLa cells, and HEp-2 cells
- **Concentrations**
  1000 μg/mL
- **Incubation Time**
  3 days
- **Method**
  The cytotoxicity of Favipiravir (T-705) is evaluated by an assay with XTT. XTT is converted to aqueous formazan by an enzyme in MDCK cells, Vero cells, HEL cells, A549 cells, HeLa cells, and HEp-2 cells. The compound is diluted to the appropriate concentrations (volume, 100 μl) with test medium (EMEM containing 10% FCS) in 96-well culture plates in which each well contains a concentration of 2×10^3 cells/100 μL. The test plates are incubated for 3 days at 37°C in 100% humidity and 5% CO_2. After 3 days, 50 μl of the XTT reagent (1 mg/ml in FCS-free EMEM containing 5 mM phenazine methosulfate) is added, and the reaction product is assayed by measurement of the absorbance at 450 nm with a microplate reader. Cytotoxicity is expressed as the 50% cell-inhibitory concentration (CC50).

Animal Study:[1]

- **Animal Models**
  Mice infected with influenza virus A/PR/8/34
- **Dosages**
  200 mg/kg/day
- **Administration**
  p.o.

References

https://pubmed.ncbi.nlm.nih.gov/11897578/ https://pubmed.ncbi.nlm.nih.gov/23325689/ https://pubmed.ncbi.nlm.nih.gov/26343011/

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.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

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