Selleckchem.com
Inhibitor Expert (Inhibitors, Compound Libraries)

Print

Favipiravir (T-705)

Technical Data

Molecular Weight	157.1	**Storage**	3 years	-20°C	powder
Formula	$C_5H_4FN_3O_2$		2 years	-80°C	in solvent
CAS No.	259793-96-9	**Synonyms**	N/A		
Chemical Name	6-fluoro-3-hydroxypyrazine-2-carboxamide				
Solubility (25°C) *	In vitro	DMSO	31 mg/mL (197.32 mM)		
		Ethanol	20 mg/mL **warmed with 50°C water bath** (127.3 mM)		
		Water	12 mg/mL **warmed with 50°C water bath** (76.38 mM)		
	In vivo（should be freshly prepared each time）				

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Selleck 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.

Preparing Stock Solutions

Volume / Mass / Concentration	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 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), Favipiravir shows no cytotoxicity at concentrations up to 1,000 μg/ml. [1] In MDCK cells inoculated with seasonal influenza A (H1N1) viruses, Favipiravir induces lethal mutagenesis. [2]
In vivo	In influenza virus-infected mice, Favipiravir (200 mg/kg/day, p.o.) protects the mice from death from influenza virus infection. [1] In mice experimentally infected with Ebola virus, Favipiravir efficiently blocks viral production, reaching an antiviral effectiveness of 95% and 99.6% at 2 and 6days after initiation of treatment, respectively. [3]
FeaturesS7975	

Protocol *(Only for Reference)*

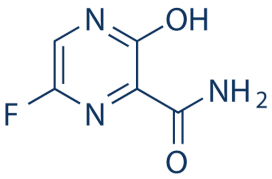
Cell Assay: [1]

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 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 compounds are 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
Formulation	0.5% methylcellulose
Dosages	200 mg/kg/day
Administration	p.o.

Chemical Structure



*** Return Policy**

Selleck Chemical'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 365 days of its original purchase date.

Toll Free:
(877) 796-6397
-- USA and Canada only --

Fax:
+1-713-796-9816

Orders:
+1-832-582-8158
sales@selleckchem.com

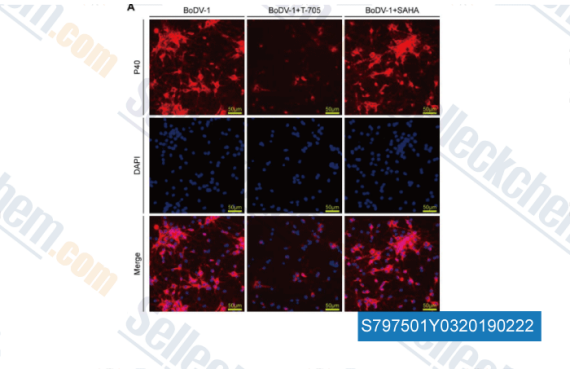
Tech Support:
+1-832-582-8158 Ext:3
tech@selleckchem.com
Please provide your Order Number in the email. We strive to reply to all email inquiries within one business day.

Website:
www.selleckchem.com

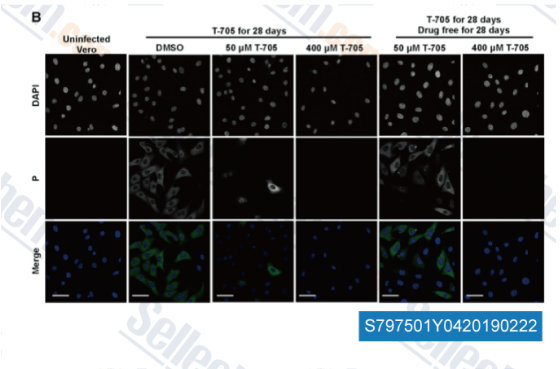
References:

[1] Furuta Y, et al. Antimicrob Agents Chemother. 2002, 46(4), 977-981.
[2] Baranovich T, et al. J Virol. 2013, 87(7), 3741-3751.
[3] Madelain V, et al. Antiviral Res. 2015, 123, 70-77.

Customer Product Validation



Data from [Data independently produced by , , Cell Physiol Biochem, 2018, 49(1):381-394]
(A) BoDV-1 infection was measured by IFA. BoDV-1 P40 was detected with a primary monoclonal antibody (red), nuclei were stained with DAPI (blue), merged image (scale bars: 50 μm). Favipiravir: T-705



Data from [Data independently produced by , , Antiviral Res, 2017, 143:237-245]
(B) IFA of Vero-rBoDV-1-Gluc cells treated with T-705. Vero-rBoDV-1-Gluc cells were treated as indicated and the cells were stained with an anti-P antibody (shown in green) and DAPI (shown in blue). Bars, 50 μm.

Favipiravir (T-705) has been referenced in publications.

Antiviral candidates against the hepatitis E virus (HEV) and their combinations inhibit HEV growth in in vitro. [Antiviral Res, 2019, 170:104570]	PubMed: 31362004
Memory Impairment Induced by Borna Disease Virus 1 Infection is Associated with Reduced H3K9 Acetylation [Jie J, et al. Cell Physiol Biochem, 2018, 49(1):381-394]	PubMed: 30138929
Antiviral activity of favipiravir (T-705) against mammalian and avian bornaviruses [Tokunaga T, et al. Antiviral Res, 2017, 143:237-245]	PubMed: 28465146

PLEASE KEEP THE PRODUCT UNDER -20°C FOR LONG-TERM STORAGE.
NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.
Specific storage and handling information for each product is indicated on the product datasheet. Most Selleck products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage.
We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.