Grazoprevir

Catalog No.C09561 Batch:C0956103

Product Datasheet

Technical Data

Formula	$C_{38}H_{50}N_6O_9S$		
Molecular Weight	766.9	**CAS No.**	1350514-68-9
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (130.39 mM)
		Ethanol	25 mg/mL (32.59 mM)
		Water	Insoluble

* <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	1.3040 mL	6.5198 mL	13.0395 mL
5 mM	0.2608 mL	1.3040 mL	2.6079 mL
10 mM	0.1304 mL	0.6520 mL	1.3040 mL
50 mM	0.0261 mL	0.1304 mL	0.2608 mL

Biological Activity

Description	Grazoprevir anhydrous (MK5172) is a **Hepatitis C Virus NS3/4A Protease** inhibitor with IC50 values of 7pM, 4pM, and 62pM for HCV genotype 1a, 1B, and 4 respectively.
Targets	gt1b [1] (Cell-free assay): 0.01 nM(Ki); gt1a [1] (Cell-free assay): 0.01 nM(Ki); gt1b R155K [1] (Cell-free assay): 0.07 nM(Ki); gt2a [1] (Cell-free assay): 0.08 nM(Ki); gt1b D168V [1] (Cell-free assay): 0.14 nM(Ki); View More →
In vitro	MK-5172 is a novel P2-P4 quinoxaline macrocyclic NS3/4a protease inhibitor currently in clinical development. The compound demonstrates subnanomolar activity against a broad enzyme panel encompassing major hepatitis C virus (HCV) genotypes as well as variants resistant to earlier protease inhibitors[1].
In vivo	In both rat and dog, MK-5172 demonstrates good plasma and liver exposures, with 24-h liver levels suggestive of once-daily dosing. When administered to HCV-infected chimpanzees harboring chronic gt1a or gt1b infections, MK-5172 suppresses viral load between 4 to 5 logs at a dose of 1 mg/kg of body weight twice daily (b.i.d.) for 7 days. MK-5172 demonstrates low to moderate clearance and a modest half-life in both rat and dog. Upon oral administration, MK-5172 demonstrates modest bioavailability of 12 to 13%, with moderate plasma exposure in both species. Significant liver concentrations are achieved in both rat and dog. The 24-h trough liver concentrations are 0.2 μM in rat and 1.4 μM in dog (1 mg per kg), yielding exposure multiples of 27- to 200-fold over the serum-adjusted replicon EC50. MK-5172 proves highly efficacious in vivo at moderate doses against chronic-HCV-infected chimpanzees, including greater viral load suppression than vaniprevir when dosed alternatively to the same animal at an otherwise identical dose and frequency[1].

Protocol (from reference)

Cell Assay:[1]

- **Cell lines**
  HB1 cells
- **Concentrations**
  2, 5, or 10 nM
- **Incubation Time**
  1, 2, 3.5 days
- **Method**
  30,000 HB1 cells are seeded per well of a 6-well tissue culture plate per drug concentration. The next day (day 0), the medium is replenished with fresh medium and MK-5172 at the appropriate drug concentration. Cells from a single well per drug concentration are harvested on days 0, 1, and 2, washed, and stored frozen until evaluation. The fourth well is similarly harvested on day 3.5 except that 30,000 cells are reseeded with fresh medium and MK-5172 at the appropriate drug concentration. For additional time points, cells are passaged and harvested every one-half week for 2 weeks. For the third week, cells are similarly treated except that cells received replenishing medium which contained 0.5 mg/ml G418 without protease inhibitor.

Animal Study:[1]

- **Animal Models**
  rats or dogs
- **Dosages**
  2 mg/kg of body weight (rat) or 0.5 mg/kg (dog)
- **Administration**
  i.v.

References

http://aac.asm.org/content/56/8/4161.full

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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