Ritonavir

Catalog No.C07593 Batch:C0759303

Product Datasheet

Technical Data

Formula	$C_{37}H_{48}N_6O_5S_2$					
Molecular Weight	720.94	**CAS No.**	155213-67-5			
Solubility (25°C)*	In vitro	DMSO	100 mg/mL (138.7 mM)			
		Ethanol	100 mg/mL (138.7 mM)			
		Water	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.
		Injection	Clear solution	30%PEG400 [1] → 0.5%Tween80 [2] → 5%propylene glycol Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing.	30.000mg/ml (41.61mM)	Taking the 1 mL working solution as an example, add 300 μL of 100 mg/ml clarified PEG400 stock solution to 5 μL of Tween80, mix evenly to clarify it; add 50 μL Propylene glycol to the above system, mix evenly to clarify it; then continue to add 645 μL ddH2O to adjust the volume. to 1 mL. The mixed solution should be used immediately for optimal results.

* <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	Ritonavir is a **Cytochrome P450 3A** and **Protease** Inhibitor; Also inhibits **Cytochrome P450 2D6**, **P-Glycoprotein** and induces **Cytochrome P450 2C19**, **Cytochrome P450 1A2**, **Cytochrome P450 2C9**, **Cytochrome P450 2B6** and **UDP Glucuronosyltransferases**. This compound induces **apoptosis**.
Targets	CYP3A4 [1] | HIV [1]
In vitro	Ritonavir is a very potent inhibitor of CYP3A4 mediated testosterone 6β-hydroxylation with mean Ki of 19 nM and also inhibits tolbutamide hydroxylation with IC50 of 4.2 μM. [1] This compound is found to be a potent inhibitor of CYP3A-mediated biotransformations (nifedipine oxidation with IC50 of 0.07 mM, 17alpha-ethynylestradiol 2-hydroxylation with IC50 of 2 mM; terfenadine hydroxylation with IC50 of 0.14 mM). It is also found to be an inhibitor of the reactions mediated by CYP2D6 (IC50 = 2.5 mM) and CYP2C9/10 (IC50 = 8.0 mM). [2] This agent results in an increase in cell viability in uninfected human PBMC cultures. It markedly decreases the susceptibility of PBMCs to apoptosis correlated with lower levels of caspase-1 expression, decreases in annexin V staining, and reduces caspase-3 activity in uninfected human PBMC cultures. The compound inhibits induction of tumor necrosis factor (TNF) production by PBMCs and monocytes in a time- and dose-dependent manner at nontoxic concentrations. [3] It inhibits p-glycoprotein-mediated extrusion of saquinavir with an IC50 of 0.2 μM, indicating a high affinity of ritonavir for p-glycoprotein. [4] This chemical inhibits human liver microsomal metabolism of ABT-378 potently with Ki of 13 nM. When combined with ABT-378 (at 3:1 and 29:1 ratios), it inhibits CYP3A (IC50 = 1.1 and 4.6 μM), albeit less potently than Ritonavir (IC50 = 0.14 μM). [5]

Protocol (from reference)

Cell Assay:[6]

- **Cell lines**
  CD4+ T cells
- **Concentrations**
  10 μM
- **Incubation Time**
  36 h
- **Method**
  Cells were treated with indicated concentration of this compound for 36 h.

Animal Study:[7]

- **Animal Models**
  BALB/c mice
- **Dosages**
  60 mg/kg
- **Administration**
  i.p.

References

https://pubmed.ncbi.nlm.nih.gov/9278209/ https://pubmed.ncbi.nlm.nih.gov/8613951/ https://pubmed.ncbi.nlm.nih.gov/10551732/

+ Expand

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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