

Product Name: Ritonavir

Catalog No.: 5856

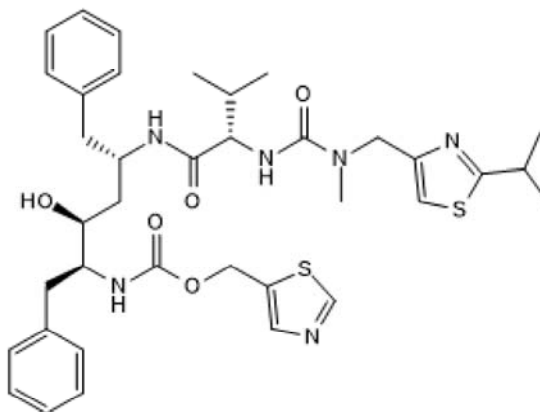
Batch No.: 1

CAS Number: 155213-67-5

IUPAC Name: 5-Thiazolylmethyl (3S,4S,6S,9S)-4-hydroxy-12-methyl-9-(1-methylethyl)-13-[2-(1-methylethyl)-4-thiazolyl]-8,11-dioxo-3,6-bis(phenylmethyl)-2,7,10,12-tetraazatridecanoate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₃₇H₄₈N₆O₅S₂
Batch Molecular Weight: 720.94
Physical Appearance: White solid
Solubility: DMSO to 20 mM with gentle warming
 ethanol to 10 mM
Storage: Store at -20°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	61.64	6.71	11.66
Found	62	6.76	11.54

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

HIV-1 and HIV-2 protease inhibitor (EC₅₀ values are 0.022-0.13 and 0.16 μM, respectively). Blocks the metabolism of protease inhibitors by liver enzyme cytochrome P450-3A4 (CYP3A4). Orally bioavailable. When used in combination with lopinavir, improves outcome in an animal model of MERS-CoV infection.

Physical and Chemical Properties:

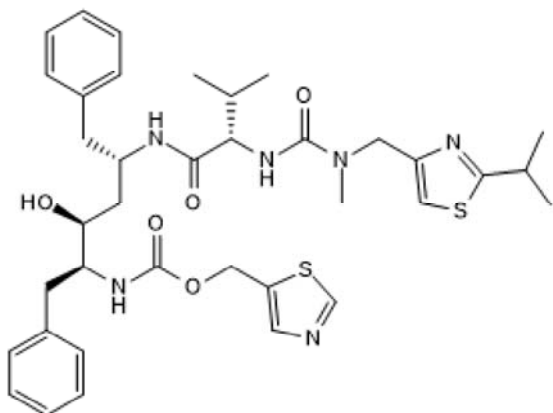
Batch Molecular Formula: C₃₇H₄₈N₆O₅S₂

Batch Molecular Weight: 720.94

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 20 mM with gentle warming
ethanol to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Chan et al (2015) Treatment with Lopinavir/Ritonavir or Interferon-β1b improves outcome of MERS-CoV infection in a nonhuman primate model of common marmoset. *J.Infect.Dis.* **12** 1904. PMID: 26198719.

Zeldin et al (2004) Pharmacological and therapeutic properties of ritonavir-boosted protease inhibitor therapy in HIV-infected patients. *J.Antimicrob.Chemother.* **53** 4. PMID: 14657084.

Kempf et al (1998) Discovery of ritonavir, a potent inhibitor of HIV protease with high oral bioavailability and clinical efficacy. *J.Med.Chem.* **41** 602. PMID: 9484509.

Kempf et al (1995) ABT-538 is a potent inhibitor of human immunodeficiency virus protease and has high oral bioavailability in humans. *Proc.Natl.Acad.Sci.U.S.A.* **92** 2484. PMID: 7708670.

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