Saquinavir

Cat. No.: HY-17007

CAS No.: 127779-20-8

Molecular Formula: $C_{38}H_{50}N_6O_5$

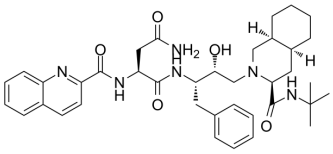
Molecular Weight: 670.84

Target: HIV; HIV Protease; SARS-CoV

Pathway: Anti-infection; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	1 year
	-20°C	6 months



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (149.07 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.4907 mL	7.4533 mL	14.9067 mL
	5 mM	0.2981 mL	1.4907 mL	2.9813 mL
	10 mM	0.1491 mL	0.7453 mL	1.4907 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (3.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Saquinavir(Ro 31-8959) is an HIV Protease inhibitor used in antiretroviral therapy. Saquinavir is also a SARS-CoV $3CL^{pro}$ inhibitor with an IC_{50} of 1.36 μM.

In Vitro

Saquinavir is a protease inhibitor. Proteases are enzymes that cleave protein molecules into smaller fragments. HIV protease is vital for both viral replication within the cell and release of mature viral particles from an infected cell. Saquinavir binds to the active site of the viral protease and prevents cleavage of viral polyproteins, preventing maturation of the virus. Saquinavir inhibits both HIV-1 and HIV-2 proteases.Studies have also looked at Saquinavir as a possible anti-

cancer agent.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Signal Transduct Target Ther. 2021 May 29;6(1):212.
- Nat Commun. 2020 Sep 4;11(1):4417.
- Int J Antimicrob Agents. 2019 Dec;54(6):814-819.
- Phytomedicine. 2019 Mar 15;56:175-182.
- Antiviral Res. 2022 Nov 10;105463.

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[2]. Walmsley Sharon, Avihingsanon Anchalee, Slim Jihad et al. Gemini: A Noninferiority Study of Saquinavir/Ritonavir Versus Lopinavir/Ritonavir as Initial HIV-1 Therapy in Adults. JAIDS Journal of Acquired Immune Deficiency Syndromes. 2009,50 (4) :367-374.

[3]. Saquinavir

[4]. Barillari Giovannia, Iovane Andréa, Bacigalupo Ilariaa, et al. Ritonavir or saquinavir impairs the invasion of cervical intraepithelial neoplasia cells via a reduction of MMP expression and activity. AIDS. 2012, 26 (8): 909-919.

[5]. Martha Stefanidou, Carolina Herrera, Naomi Armanasco et al. Saquinavir Inhibits Early Events Associated with Establishment of HIV-1 Infection: Potential Role for Protease Inhibitors in Prevention. Antimicrob. Agents Chemother. 2012, 56 (8): 4381-4390.

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