

DPC 684

Chemical Properties

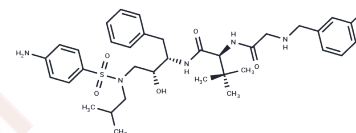
CAS No. : 284661-73-0

Formula: C₃₅H₄₈FN₅O₅S

Molecular Weight: 669.85

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	DPC 684 is a potent and selective HIV-1 protease inhibitor with an IC ₉₀ of 5.7-40 nM and a K _i of 0.021 nM. It competitively inhibits HIV-1 protease, preventing viral polyprotein cleavage. Compared to cellular proteases, DPC 684 shows high selectivity for retroviral proteases. The compound exhibits low protein binding and offers broad-spectrum inhibition against various wild-type and mutant HIV-1 proteases, with an IC ₉₀ of 1.9-6.3 nM. DPC 684 is significant for HIV research.
Targets(IC ₅₀)	HIV Protease
In vitro	DPC 684 (Compound DPC 684) exhibits broad-spectrum anti-HIV-1 activity, with an average concentration of 14.5 nM needed for 90% inhibition of viral replication in various cell models (MT-2: HIV-1 RF, IIIB strains, PBMC: HIV-1 IIIB, NL4-3 strains). The antiviral activity against both laboratory and clinical isolates is as follows: [IC ₉₀ : RF at 5.7 nM, 7.8 nM; HXB2 at 12 nM; NL4-3 at 20 nM; IIIB at 8.8 nM, 40 nM; Thai 9466 and Patient E at 11 nM; HIV-2 at 32 nM]. In MT-2 cells, DPC 684 remains effective against common clinical resistance mutations, maintaining an IC ₉₀ of 8.8 with the D30N mutation without loss of potency. Under multiple mutations, the IC ₉₀ is 26, indicating a twofold reduction in efficacy. At a concentration of 13 μM, DPC 684 shows no significant inhibition of 17 human proteases, including renin and pepsin, confirming its high selectivity for HIV protease.
In vivo	DPC 684 (Compound DPC 684) demonstrated histological changes in the liver of rats and mild first-degree atrioventricular block in dogs during a 2-week safety assessment study. These findings indicate the need to closely monitor these target organs for potential risks in future research.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4929 mL	7.4644 mL	14.9287 mL
5 mM	0.2986 mL	1.4929 mL	2.9857 mL
10 mM	0.1493 mL	0.7464 mL	1.4929 mL
50 mM	0.0299 mL	0.1493 mL	0.2986 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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