

CC-90005

## Chemical Properties

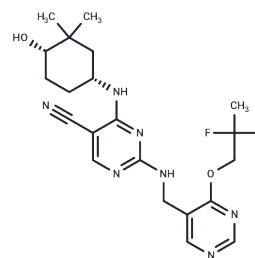
CAS No. : 1799574-70-1

Formula: C<sub>21</sub>H<sub>27</sub>F<sub>2</sub>N<sub>7</sub>O<sub>2</sub>

Molecular Weight: 447.48

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	CC-90005 is a potent, selective, and orally active inhibitor of protein kinase C- $\theta$ (PKC- $\theta$ ) with an IC <sub>50</sub> of 8 nM, demonstrating strong selectivity over PKC- $\delta$ (IC <sub>50</sub> =4440 nM). Additionally, CC-90005 can inhibit T cell activation by IL-2 expression[1].
Targets(IC50)	Others,PKC
In vitro	CC-90005 exhibits high selectivity with IC <sub>50</sub> values for all other family members exceeding 3 $\mu$ M. It is a moderate inhibitor of CYP2C9 (IC <sub>50</sub> =8 $\mu$ M) and CYP2C19 (IC <sub>50</sub> =5.9 $\mu$ M) in human liver microsomes. CC-90005 inhibits IL-2 expression in LRS_WBC human PBMCs with an IC <sub>50</sub> of 0.15 $\mu$ M. Additionally, CC-90005 (1-10 $\mu$ M; 24 h) inhibits T cell proliferation in PBMCs by 51% at 1 $\mu$ M and 88% at 3 $\mu$ M[1].
In vivo	CC-90005 (3-30 mg/kg; p.o. twice daily for 4 days) significantly reduces the popliteal lymph node (PLN) size in a model of chronic T cell activation[1]. Additionally, CC-90005 (100 mg/kg; a single p.o.) significantly inhibits plasma and spleen IL-2 release by 51% and 54%, respectively[1]. CC-90005 demonstrates reasonable oral bioavailability (66% in rats and 46% in dogs) and C <sub>max</sub> (1.18 $\mu$ M in rats and 1.2 $\mu$ M in dogs) following oral administration (10 mg/kg in rats and 3 mg/kg in dogs)[1]. Following intravenous administration (2 mg/kg in rats and 1 mg/kg in dogs), CC-90005 exhibits a mean residence time of 0.52 h in rats and 2.0 h in dogs, clearance (CL) of 69.1 mL/min/kg in rats and 20.5 mL/min/kg in dogs, and volume of distribution at steady state (V <sub>ss</sub> ) of 2.11 L/kg in rats and 2.44 L/kg in dogs[1].

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.2347 mL	11.1737 mL	22.3474 mL
5 mM	0.4469 mL	2.2347 mL	4.4695 mL
10 mM	0.2235 mL	1.1174 mL	2.2347 mL
50 mM	0.0447 mL	0.2235 mL	0.4469 mL

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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.

### Reference

Papa P, et, al. Discovery of the Selective Protein Kinase C- $\theta$  Kinase Inhibitor, CC-90005. J Med Chem. 2021 Aug 26; 64(16):11886-11903.

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