

CSF1R-IN-15

## Chemical Properties

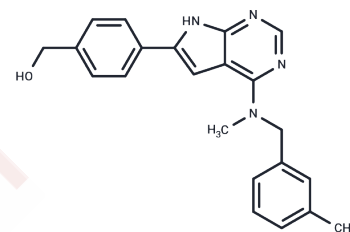
CAS No. : 2925744-43-8

Formula: C22H22N4O

Molecular Weight: 358.44

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	CSF1R-IN-15 (compound 23) serves as an inhibitor of the colony-stimulating factor-1 receptor (CSF1R), a tyrosine kinase located in the macrophage cell membrane. This receptor is activated by colony-stimulating factor-1 (CSF-1) and interleukin-34. Signaling through CSF1R is essential for the differentiation, proliferation, and survival of macrophages [1].
Targets(IC50)	c-Fms
In vitro	CSF1R-IN-15 displays no activity against Ba/F3 cells at concentrations ranging from 0.007 to 10 $\mu$ M over 72 hours, whereas pexidartinib shows superior activity [1]. The compound's plasma protein binding was assessed through equilibrium dialysis. When incubated at 5 $\mu$ M for 6 hours at 37°C, CSF1R-IN-15 demonstrated a 69% plasma protein binding rate in mouse plasma [1].
In vivo	Pharmacokinetic parameters for CSF1R-IN-15 were derived from a boxed dosing study in C57BLKS mice. The observed values for half-life ( $t_{1/2}$ ), initial concentration ( $C_0$ ), area under the curve from zero to infinity (AUC $0-\infty$ ), observed clearance (CL obs), and steady-state volume of distribution ( $V_{ss,obs}$ ) were 0.5 hours, 37 ng/mL, 18 h*ng/mL, 54 L/h/kg, and 32 L/kg, respectively [1]. The study utilized an animal model for in vivo pharmacokinetics with a dosage of 1mg/kg administered intravenously (i.v.), in a single dose formulation of 20% DMSO and 80% PEG400. Blood samples were collected at 10, 30, 60, 120, 240, and 480 minutes post-administration. The results reaffirmed the pharmacokinetic parameters as $t_{1/2}$ (0.5 h), $C_0$ (37 ng/mL), AUC $0-\infty$ (18 h*ng/mL), CL obs (54 L/h/kg), and $V_{ss,obs}$ (32 L/kg).

### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	2.7899 mL	13.9493 mL	27.8987 mL
5 mM	0.558 mL	2.7899 mL	5.5797 mL
10 mM	0.279 mL	1.3949 mL	2.7899 mL
50 mM	0.0558 mL	0.279 mL	0.558 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.

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