

PHD2-IN-1

Chemical Properties

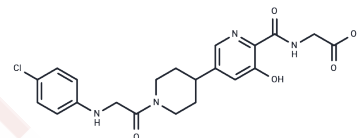
CAS No. : 2768219-28-7

Formula: C₂₁H₂₃ClN₄O₅

Molecular Weight: 446.88

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	PHD2-IN-1, a potent and orally active HIF prolyl hydroxylase 2 (PHD2) inhibitor, exhibits an IC ₅₀ of 22.53 nM and is applicable in anemia research [1].
Targets(IC ₅₀)	HIF/HIF Prolyl-Hydroxylase
In vitro	PHD2-IN-1 (Compound 22), at concentrations ranging from 0-50 μM and applied over a period of 12 hours, stabilizes HIF-α and enhances the expression of the erythropoietin (EPO) gene.
In vivo	PHD2-IN-1 (Compound 22) administered orally at 10, 20, and 50 mg/kg once daily for three consecutive days stimulated erythropoiesis and increased reticulocyte counts in a dose-dependent manner in C57BL/6 mice [1]. When injected intraperitoneally at 50, 100, and 200 mg/kg in ICR mice, it exhibited no significant toxic responses after three days of once-daily administration [1]. Pharmacokinetic analysis indicated that PHD2-IN-1 has a half-life (T _{1/2}) of 2.29 hours orally and 3.72 hours intravenously in rats, and 1.17 hours orally and 0.33 hours intravenously in mice, with oral bioavailability (F%) of 33.9% in rats and 35.3% in mice [1]. Pharmacokinetic parameters for PHD2-IN-1 in SD rats and C57BL/6 mice, including T _{max} , C _{max} , AUC _{0-t} , AUC _{0-∞} , T _{1/2} , clearance (CL), volume of distribution (V _z), mean residence time (MRT), and bioavailability (F%) across different administration routes and dosages, are summarized in the provided table [1].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2377 mL	11.1887 mL	22.3774 mL
5 mM	0.4475 mL	2.2377 mL	4.4755 mL
10 mM	0.2238 mL	1.1189 mL	2.2377 mL
50 mM	0.0448 mL	0.2238 mL	0.4475 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

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