

CYP19A1/CYP11B2-IN-1

Chemical Properties

CAS No. :	183500-36-9
Formula:	C12H11N3O
Molecular Weight:	213.24
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	CYP19A1/CYP11B2-IN-1 is a potent dual inhibitor of aromatase (CYP19A1) and aldosterone synthase (CYP11B2), with IC ₅₀ values of 2.3 nM and 29 nM, respectively. CYP19A1/CYP11B2-IN-1 inhibits breast cancer cell proliferation and induces apoptosis (IC ₅₀ of 0.26 ± 0.03 μM against MCF-7 cells). CYP19A1/CYP11B2-IN-1 downregulates the PI3K/Akt/mTOR signaling pathway by inhibiting mTOR phosphorylation.
Targets(IC50)	Cytochromes P450
In vitro	CYP19A1/CYP11B2-IN-1 (Compound X21) exhibits time- and concentration-dependent inhibitory effects on the proliferation of MCF-7 and MDA-MB-231 cells when administered at concentrations ranging from 0.001 to 100 μM over a 24-hour period. [1] At a concentration of 700 nM for 24 hours, CYP19A1/CYP11B2-IN-1 significantly inhibits phosphorylation of mTOR in MCF-7 cells, negatively regulating the PI3K/Akt/mTOR axis. [1] It does not significantly inhibit hERG and Nav1.5 at concentrations of 20-30 μM, indicating a lack of cardiotoxicity. [1] In cell proliferation assays, the IC ₅₀ values were determined as 0.26±0.03 μM for MCF-7 cells and 27.10 ± 5.15 μM for MDA-MB-231 cells, confirming no toxicity to normal cells. [1] Apoptosis analysis revealed an increase in DNA fragmentation in both cell lines at concentrations of 0.35-1 μM and 10-50 μM after 24 hours of treatment, with higher concentrations (>40 μM) enhancing apoptotic signaling in MDA-MB-231 cells.[1]

Solubility Information

Solubility	DMSO: 100 mg/mL (468.96 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.6896 mL	23.4478 mL	46.8955 mL
5 mM	0.9379 mL	4.6896 mL	9.3791 mL
10 mM	0.469 mL	2.3448 mL	4.6896 mL
50 mM	0.0938 mL	0.469 mL	0.9379 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.

Reference

Tinivella A, et al. Discovery of a Potent Dual Inhibitor of Aromatase and Aldosterone Synthase. ACS Pharmacology & Translational Science. 2023 Nov 23.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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