CYP19A1/CYP11B2-IN-1

Cat. No.: HY-155493

CAS No.: 183500-36-9

Molecular Formula: $C_{12}H_{11}N_3O$

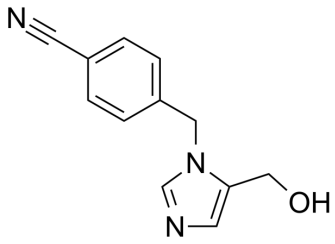
Molecular Weight: 213.24

Target: Cytochrome P450

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 125 mg/mL (586.19 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.6896 mL	23.4478 mL	46.8955 mL
	5 mM	0.9379 mL	4.6896 mL	9.3791 mL
	10 mM	0.4690 mL	2.3448 mL	4.6896 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

CYP19A1/CYP11B2-IN-1 (Compound X21) is a potent and selective aromatase and aldosterone synthase dual inhibitor with IC_{50}s of 2.3 nM and 29 nM for aromatase (CYP19A1) and aldosterone synthase (CYP11B2), respectively. CYP19A1/CYP11B2-IN-1 has excellent antiproliferative and pro-apoptotic activity against the cancer cell. CYP19A1/CYP11B2-IN-1 can be used for research of breast cancer[1].

In Vitro

CYP19A1/CYP11B2-IN-1 (Compound X21) (0.001-100 μM, 24 h) shows a time- and concentration-dependent proliferation inhibition on MCF-7 and MDA-MB-231 cells[1].

CYP19A1/CYP11B2-IN-1 (700 nM, 24 h) significantly inhibits the phosphorylation of mTOR in MCF-7 cells, thereby negatively modulating the PI3K/Akt/mTOR axis[1].

CYP19A1/CYP11B2-IN-1 (20-30 μM) has no significant inhibition of hERG and Nav1.5, indicating no toxicity to the heart[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	MCF-7 and MDA-MB-231 cells
Concentration:	0.001-100 μM

Incubation Time:	24-72 h
Result:	Inhibited the MCF-7 cells proliferation with an IC_{50} of 0.26±0.03 μM. Inhibited the MDA-MB-231 cells proliferation with an IC_{50} of 27.10 ± 5.15 μM. Confirmed no toxicity on normal cells.

Apoptosis Analysis[1]

Cell Line:	MCF-7 and MDA-MB-231 cells
Concentration:	0.35-1 μM, 10-50 μM
Incubation Time:	24 h
Result:	Increase in the extent of DNA fragmentation. Increased the apoptotic signal in MDA-MB-231 cells with higher concentrations (> 40 μM).

REFERENCES

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

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