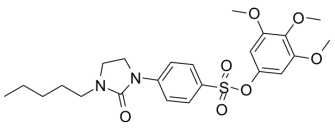
Antitumor agent-88

Cat. No.:	HY-148595
CAS No.:	1422527-87-4
Molecular Formula:	$C_{23}H_{30}N_2O_7S$
Molecular Weight:	478.56
Target:	Cytochrome P450
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Antitumor agent-88 exhibits potent antimitotic activity and arrests cell in the G2/M phase. Antitumor agent-88 disrupts the microtubule and the cytoskeleton in CYP1A1-expressing breast cancer cells. Antitumor agent-88 is also a competitive inhibitor of CYP1A1 (K_i: 1.4 μM)[1].

IC_{50} & Target

CYP1A1
1.4 μM (Ki)

In Vitro

Antitumor agent-88 (Compound 14, 48 h) inhibits MCF-7 cell growth, with an IC_{50} of 200 nM, and is inactive on MDA-MB-231 (IC_{50} >8600 nM)[1].
Antitumor agent-88 inhibits MDA-MB-468, SK-BR cell growth with IC_{50}s of 21 nM, 3.2 nM[1].
Antitumor agent-88 (50 nM, 48 h) causes accumulation of the cells in the G2/M phase by 42%[1].
Antitumor agent-88 shows high affinity for CYP1A1 (K_i: 1.4 μM)[1].
Antitumor agent-88 selectively inhibits HT-1080 cell proliferation, with IC_{50}s of 30 nM for HT-1080 transfected withCYP1A1[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	MCF-7 cell
Concentration:	50 nM
Incubation Time:	48 h
Result:	Arrested cell in G2/M phase.

In Vivo

Antitumor agent-88 (Compound 14) (1 μg/egg) shows antitumoral activities in the chick embryos bearing HT-1080CYP1A1 tumors[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Chick embryos grafted with HT-1080CYP1A1 cells[1]
Dosage:	1 μg/egg
Administration:	Applied to chick chorioallantoic membrane.

Result:	Reduced tumor weight by 49%.

REFERENCES

[1]. Chavez Alvarez AC, et al. Homologation of the Alkyl Side Chain of Antimitotic Phenyl 4-(2-Oxo-3-alkylimidazolidin-1-yl)benzenesulfonate Prodrugs Selectively Targeting CYP1A1-Expressing Breast Cancers Improves Their Stability in Rodent Liver Microsomes. J Med Chem. 2023 Feb 23;66(4):2477-2497.

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