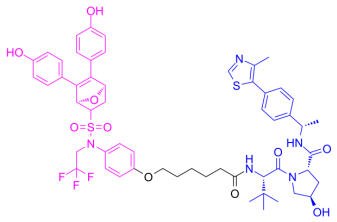
PROTAC ERα Degrader-4

Cat. No.:	HY-149295
CAS No.:	2521299-80-7
Molecular Formula:	$C_{55}H_{62}F_3N_5O_{10}S_2$
Molecular Weight:	1074.23
Target:	PROTACs; Estrogen Receptor/ERR; Apoptosis
Pathway:	PROTAC; Vitamin D Related/Nuclear Receptor; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description PROTAC ERα Degrader-4 is a highly potent and selectivePROTAC ERα degrader (K_i: 5.08 μM). PROTAC ERα Degrader-4 contains OBHSAs, linker and E ligands. PROTAC ERα Degrader-4 shows excellent cell inhibitory and ERα degradation activity against Tamoxifen-sensitive and -resistant ER^+ breast (BC) cells and ERα-mutated BC cells. PROTAC ERα Degrader-4 can induce apoptosis and can be used for cancer research.

IC_{50} & Target	ERα	ERβ
	5.08 μM (Ki)	26.20 μM (Ki)

In Vitro

PROTAC ERα Degrader-4 (1 μM, 12 hours) exhibits significant degradation activity for ERα in MCF-7cells[1].

PROTAC ERα Degrader-4 (2 μM, 12 hours) can degrade wild-type ERα inT47D cells and mutant ERα in $T47D^{D538G}$ and $T47D^{Y537S}$ cells[1].

PROTAC ERα Degrader-4 (0.01-10 μM, 72 hours) has inhibitory activity of ERα in Tamoxifen (HY-13757A) -sensitive MCF-7 cells, with the IC_{50} value of [1].

PROTAC ERα Degrader-4 (1-10 μM, 72 hours) induce apoptosis and cell cycle arrest of MCF-7 cells[1].

PROTAC ERα Degrader-4 (0.01-10 μM, 12 hours) efficiently degrades ERα protein in the range of 0.01 to10 μM in MCF-7 cell line[1].

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

Cell Viability Assay[1]

Cell Line:	MCF-7 cells
Concentration:	0.01-10 μM
Incubation Time:	72 hours
Result:	Had inhibitory activity in Tamoxifen-sensitive MCF-7 cells, with the IC_{50} value of 0.05 μM.

Apoptosis Analysis[1]

Cell Line:	MCF-7 cells
Concentration:	1.0 μM, 5 μM, 5.0 μM
Incubation Time:	72 hours
Result:	Induced apoptosis.

Cell Cycle Analysis[1]

Cell Line:	MCF-7 cells
Concentration:	0.01-10 μM
Incubation Time:	72 hours
Result:	Induced cell cycle arrest.

Western Blot Analysis[1]

Cell Line:	MCF-7 cells
Concentration:	0.01-10 μM
Incubation Time:	12 hours
Result:	Efficiently degraded ERα protein in the range of 0.01 to10 μM, whereas ERα protein levels recovered slightly at a concentration of 10 μM

In Vivo

PROTAC ERα Degrader-4 (Compound ZD12) (5 μM/kg for i.p., once every 2 days) exhibits potent antitumor activity and ERα degradation effect in tu tissues in LCC2 orthotopic xenograft tumor models[1].

PROTAC ERα Degrader-4 (5 mg/kg for i.v.) shows a $T_{1/2}$ of 4.61 h and CL of 64.4 mL/min/kg[1].

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

Animal Model:	LCC2 orthotopic xenograft tumor models[1]
Dosage:	5 μM/kg
Administration:	Intravenous injection (i.p.)
Result:	Exhibited potent antitumor activity and ERα degradation effect in tumor tissues.

Animal Model:	BALB/C female mice (Pharmacokinetic assay)[1]
Dosage:	5 mg/kg; 20 mg/kg
Administration:	Intravenous injection (i.v.); Oral gavage (p.o.)
Result:	Pharmacokinetic parameters for PROTAC ERα Degrader-4 (Compound ZD12) in BALB/C female mice [1] ND: not detected.

Route	Dose (mg/kg)	CL (mL/min/kg)	T_{max} (h)	$T_{1/2}$ (h)	C_{max} (ng/mL)	AUC (h•ng/mL)
i.v.	5	64.4	0.08	4.61	3635.73	1342
p.o.	20	ND	ND	ND	ND	ND

REFERENCES

[1]. Xie B, et.al. Discovery of a Novel Class of PROTACs as Potent and Selective Estrogen Receptor α Degraders to Overcome Endocrine-Resistant Breast Cancer In V
In Vivo. J Med Chem. 2023 May 25;66(10):6631-6651.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA