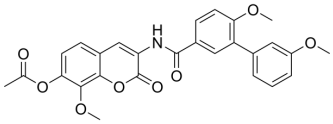
KU-177

Cat. No.:	HY-151335
CAS No.:	1160952-43-1
Molecular Formula:	$C_{27}H_{23}NO_8$
Molecular Weight:	489.47
Target:	HSP
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	KU-177 is a potent inhibitor of Hsp90 ATPase homologue 1 (Aha1), ablates Aha1-driven enhancement of Hsp90-dependent tau aggregation. KU-177 also disrupts Aha1/Hsp90 interactions (IC_{50}=4.08 μM) without inhibition of Hsp90's ATPase activity. KU-177 can be used for tauopathies research[1][2].
IC_{50} & Target	HSP90

In Vitro

KU-177 (50 μM; 48 h) hampers the proliferation of flow MRD-positive cells in both primary multiple myeloma (MM) and recurrent MM patient samples[1].
KU-177 (30 μM; 48 h) inhibits proteasome activity in AHSA1 WT/OE cells, PSMD2 WT/OE cells and ANBL6 WT/DR cells[1].
KU-177 abrogates the cellular proliferation and PI resistance induced by elevated AHSA1, and decreases the expression of CDK6 and PSMD2[1].
KU-177 (25 μM; 30 min; 37 ⊠) inhibits recombinant P301L tau aggregation without inhibiting Hsp90 to refold luciferase[2].
KU-177 (10 μM; 24 h) exhibits the ability to disrupt interactions between Aha1 and Hsp90 in SH-SY5Y neuroblastoma cells and SK-BR-3 breast cancer cells, without significantly inhibition on Hsp90 client protein (Her2)[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	ARP1 and H929 WT and AHSA1-OE cells
Concentration:	1 nM-100 μM
Incubation Time:	24, 48, 72 hours
Result:	Decreased multiple myeloma (MM) cell proliferation and PI resistance induced by AHSA1/HSP90 in vitro.

Cell Proliferation Assay[2]

Cell Line:	SH-SY5Y neuroblastoma cells and Her2 overexpressing SK-BR-3 breast cancer cells
Concentration:	10 μM
Incubation Time:	24 hours
Result:	Didn't induce the degradation of Hsp90 client proteins Her2 (in SK-BR-3 cells), Cdk6, or

	pAktS473 (in SHSY5Y cells), nor induced the expression of Hsp70, a marker of the heat shock response.

In Vivo

KU-177 (1 mg/kg; i.p.; twice a week; 4 weeks), inhibits tumor growth and extends the survival of 5TMM3VT MM mice without significant toxicity. KU-177 shows stronger efficacy in vivo, combined with Bortezomib (HY-10227) (1 mg/kg; i.p.)[1].

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

Animal Model:	5TMM3VT mouse model (6-8 weeks old, C57BL/KaLwrij mice)[1]
Dosage:	1 mg/kg
Administration:	Intraperitoneal injection; twice a week; sacrificed mice with hindlimb weakness immediately, about 4-5 weeks
Result:	Inhibited the xenograft tumor growth of both ANBL6 WT/BTZ-DR cells. Didn't induce histopathological abnormities or lesions in main organs including heart, liver, spleen, lung and kidney.

REFERENCES

[1]. Gu C, et al. AHSA1 is a promising therapeutic target for cellular proliferation and proteasome inhibitor resistance in multiple myeloma. J Exp Clin Cancer Res. 2022 Jan 6;41(1):11.

[2]. Keegan BM, et al. Synthesis and Evaluation of Small Molecule Disruptors of the Aha1/Hsp90 Complex for the Reduction of Tau Aggregation. ACS Med Chem Lett. 2022 Apr 15;13(5):827-832.

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