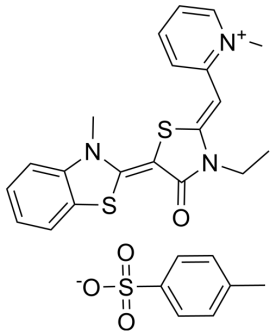
HSP70-IN-4

Cat. No.:	HY-18406
CAS No.:	1427450-47-2
Molecular Formula:	$C_{27}H_{27}N_3O_4S_3$
Molecular Weight:	553.72
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	HSP70-IN-4 (Compound YM-01) is an Hsp70 inhibitor with an IC_{50} of 3.2 μM. HSP70-IN-4 is not BBB permeable[1].
IC_{50} & Target	HSP70 3.2 μM (IC_{50})

In Vitro

HSP70-IN-4 (Compound YM-01; 50 μM) significantly enhances the binding of Hsp70 to a misfolded protein[1].

HSP70-IN-4 (0-30 μM; 72 h) inhibits MDA-MB-231, MCF10A and MCF7 viability with EC_{50}s of 2.0 ± 0.2, 3.3 ± 0.3 and 5.2 ± 0.8 μM, respectively[1].

HSP70-IN-4 is stable in water (at least 8 h at room temperature)[1].

HSP70-IN-4 is rapidly metabolized ($t_{1/2}$ value of ~2-4 min) in human liver microsomes[1].

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

Cell Viability Assay[1]

Cell Line:	MCF7, MCF10A and MDA-MB-231
Concentration:	0-30 μM
Incubation Time:	72 h
Result:	Inhibited viability with EC_{50}s of 2.0 ± 0.2, 3.3 ± 0.3 and 5.2 ± 0.8 μM for MDA-MB-231, MCF10A and MCF7, respectively.

In Vivo

HSP70-IN-4 (Compound YM-01) cannot pass the blood-brain barrier[1].

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

Animal Model:	CD1 mice[1]
Dosage:	20 mg/kg
Administration:	Intravenous injection (Pharmacokinetic Analysis)
Result:	Initial pharmacokinetics of HSP70-IN-4 (Compound YM-01; 20 mg/kg; i.v.)[1]

hour	plasma (ng/mL)	brain (ng/g)	kidney (ng/g)
0.16	359	0	74378
1	324	0	63231

REFERENCES

[1]. Miyata Y, et al. Synthesis and initial evaluation of YM-08, a blood-brain barrier permeable derivative of the heat shock protein 70 (Hsp70) inhibitor MKT-077, which reduces tau levels. ACS Chem Neurosci. 2013 Jun 19;4(6):930-9.

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