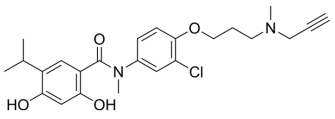
MAO A/HSP90-IN-1

Cat. No.:	HY-155577
CAS No.:	2927489-95-8
Molecular Formula:	$C_{24}H_{29}ClN_2O_4$
Molecular Weight:	444.95
Target:	Monoamine Oxidase; HSP
Pathway:	Neuronal Signaling; Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MAO A/HSP90-IN-1 (4-b) is a MAO A/HSP90 dual inhibitor with IC_{50} value of 1.77 μM and 0.019 μM in Glioblastoma (GBM) GL26 cells and HSP90α, respectively. MAO A/HSP90-IN-1 (4-b) can inhibit MAO A activity, HSP90 binding and the expression of HER2 and phospho-Akt to inhibit the growth of GBM, they also reduce PD-L1 expression, which inhibits T cell activation. MAO A/HSP90-IN-1 (4-b) have potential to inhibit tumor immune escape. MAO A/HSP90-IN-1 (4-b) can be used for brain tumor-related diseases research[1].

IC_{50} & Target

HSP90	MAO-A
0.019 μM (IC_{50})	1.77 μM (IC_{50})

In Vitro

MAO A/HSP90-IN-1 (4-b) (0.1 μM-3 μM, 24h) reduces the proliferation of GBM cells via inhibiting MAO A and HSP90[1].
MAO A/HSP90-IN-1 (0.1 μM-3 μM, 24h) shows IC_{50} 0.73 μM in GL26, 1.68 μM in U251S, and 0.84 μM in U251R[1].
MAO A/HSP90-IN-1 (0μM, 0.35μM, 0.7μM, 1.4μM, 24h) inhibits IFN-$_\gamma$ induced PD-L1 expression concentration-dependently in GL26 mouse GBM cells [1].

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

Cell Viability Assay[1]

Cell Line:	U87MG, U373MG, LN229, A172, T98G, P1S, P3, and P3R human GBM cells
Concentration:	50 μM
Incubation Time:	72 h
Result:	Inhibited cell growth in GBM cell lines with an IC_{50} ratio was around 1 except A172 cell.

Western Blot Analysis[1]

Cell Line:	GL26, U251R cells
Concentration:	3μM, 1μM, 0.3μM, 0.1μM
Incubation Time:	24 h
Result:	Decreased the protein expression of HER2 and phospho-Akt in GL26 and U251R cell lines.

In Vivo

MAO A/HSP90-IN-1 (4-b) (25 mg/kg for intraperitoneal injection, once a day) shows significantly decreased tumor growth in

GL26 GBM mouse model[1].

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

Animal Model:	GL26 GBM mouse model[1]
Dosage:	25 mg/kg
Administration:	Intraperitoneal injection (i.p.)
Result:	Decreased tumor growth inhibition (TGI%) was 63.2% compared to vehicle group.

REFERENCES

[1]. Tseng HJ, et al. Design, synthesis, and biological activity of dual monoamine oxidase A and heat shock protein 90 inhibitors, N-Methylpropargylamine-conjugated 4-isopropylresorcinol for glioblastoma. Eur J Med Chem. 2023 Aug 5;256:115459.

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