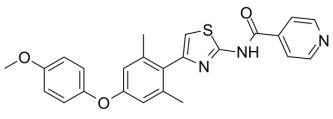
TAI-1

Cat. No.:	HY-B0790
CAS No.:	1334921-03-7
Molecular Formula:	$C_{24}H_{21}N_3O_3S$
Molecular Weight:	431.51
Target:	Apoptosis
Pathway:	Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	TAI-1, an orally active anticancer agent, is a highly potent first-in-class Hec1 inhibitor, with a GI_{50} of 13.48 nM in K562 cells[1].
IC_{50} & Target	GI50: 13.48 nM (in K562 cells)[1].
In Vitro	TAI-1 disrupts Hec1-Nek2 protein interaction, leads to Nek2 degradation, induces significant chromosomal misalignment in metaphase, and induces apoptotic cell death[1]. TAI-1 induces cancer cell death through the induction of cleavage of apoptotic proteins Caspase 3 and PARP and degradation of anti-apoptotic proteins MCL-1 and suggests that TAI-1 leads to activation of the apoptotic pathways[1]. TAI-1 is effective in many cancer cells, such as Chronic myeloid leukemia, Cervical cancer, Breast, metastatic-pleural, invasive ductal carcinoma, Acute myeloid leukemia, Myelogenous leukemia, Colorectal carcinoma cells, with GI_{50} less than 100 nM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	TAI-1 (20 mg/kg intravenously IV/ or 150 mg/kg per oral PO/BID) inhibits tumor growth in multiple cancer xenograft models [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C.B-17 SCID mice (6-7 weeks, 21-24 g)[1].
Dosage:	20 mg/kg intravenously IV/ or 150 mg/kg per oral PO/BID.
Administration:	QDx28 cycles.
Result:	Led to significant tumor growth retardation in Huh-7 and modest tumor inhibition was noted tor the Colo205 and MDA-MB-231 models. Did not lead to any loss in body weight.

REFERENCES

[1]. Lynn Y L Huang, et al. Characterization of the Biological Activity of a Potent Small Molecule Hec1 Inhibitor TAI-1. J Exp Clin Cancer Res. 2014 Jan 9;33(1):6.

Caution: Product has not been fully validated for medical applications. For research use only.

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