TAI-1

Cat. No.: HY-B0790
CAS No.: 1334921-03-7
Molecular Formula: C₂₄H₂₁N₃O₃S
Molecular Weight: 431.51
Target: Apoptosis; Caspase
Pathway: Apoptosis
Storage: Please store the product under the recommended conditions in the COA.

BIOLOGICAL ACTIVITY

**Description**

TAI-1, an orally active anticancer agent, is a highly potent first-in-class **Hec1** inhibitor, with a GI₅₀ of 13.48 nM in K562 cells[1].

**IC₅₀ & 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 GI₅₀ less than 100 nM[1].

**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].

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