

---

**Product Data Sheet**

---

Product Name: TAI-1  
Cat. No.: GC17559

**Chemical Properties**

Cas. No. 1334921-03-7

Chemical Name 4-(4-(4-methoxyphenoxy)-2,6-dimethylphenyl)-N-(1-(pyridin-4-yl)vinyl)thiazol-2-amine

SMILES COC1=CC=C(OC2=CC(C)=C(C3=CSC(NC(C4=CC=NC=C4)=C)=N3)C(C)=C2)C=C1

Formula  $C_{24}H_{21}N_3O_3S$  M.Wt 431.51

Solubility  $\geq 43.2\text{mg/mL}$  in DMSO Storage Store at  $-20^\circ\text{C}$

General tips For obtaining a higher solubility, please warm the tube at  $37^\circ\text{C}$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^\circ\text{C}$  for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure

**Background**

TAI-1 is a highly potent, first-in-class inhibitor of Hec1 with  $IC_{50}$  of TAI-1 has a  $GI_{50}$  of 13.48 nM (K562 cells), which is close to 1000 times improvement in potency compared to INH1 ( $GI_{50} = 11.7 \mu\text{M}$ ). TAI-1 showed strong inhibition across a broad spectrum of tumor cells. TAI-1 interrupted Hec1-Nek2 protein interaction, led to Nek2 degradation, induced significant chromosomal misalignment in metaphase, and induced apoptotic cell death. TAI-1 was orally active in in vivo animal models of triple negative colon cancer, breast cancer and liver cancer. Preliminary toxicity shows no effect on the organ weights, body weights and blood indices at efficacious doses. TAI-1 shows high specificity to cancer cells and to target and had no effect on the cardiac channel hERG. TAI-1 is synergistic with topotecan, doxorubicin and paclitaxel in breast, leukemia and liver cancer cells. Sensitivity to TAI-1 was associated with the status of P53 and RB gene. Knockdown of P53 and RB in cancer cells increased sensitivity to TAI-1.

**References:**

[1]. Huang LY, Lee YS, Huang JJ et al. Characterization of the biological activity of a potent small molecule Hec1 inhibitor TAI-1. *J Exp Clin Cancer Res.* 2014 Jan 9;33:6. doi: 10.1186/1756-9966-33-6.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

---

## Product Data Sheet

---

***Caution: Product has not been fully validated for medical applications. For research use only.***  
***Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com***  
***Address: 10292 Central Ave. #205, Montclair, CA, USA***