

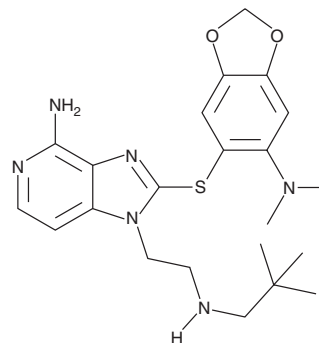
PRODUCT INFORMATION



CUDC-305

Item No. 24683

CAS Registry No.: 1061318-81-7
Formal Name: 4-amino-2-[[6-(dimethylamino)-1,3-benzodioxol-5-yl]thio]-N-(2,2-dimethylpropyl)-1H-imidazo[4,5-c]pyridine-1-ethanamine
MF: C₂₂H₃₀N₆O₂S
FW: 442.6
Purity: ≥98%
UV/Vis.: λ_{max}: 208, 291 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

CUDC-305 is supplied as a crystalline solid. A stock solution may be made by dissolving the CUDC-305 in the solvent of choice, which should be purged with an inert gas. CUDC-305 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CUDC-305 in ethanol and DMSO is approximately 5 mg/ml and approximately 10 mg/ml in DMF.

CUDC-305 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CUDC-305 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CUDC-305 has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

CUDC-305 is an orally bioavailable inhibitor of heat shock protein 90 (Hsp90; Item Nos. 22734 | 22735).¹ It binds to Hsp90α and Hsp90β (IC₅₀s = 100 and 103 nM for purified protein, respectively) as well as Hsp90 isolated from non-small cell lung cancer (NSCLC) cells resistant to erlotinib (Item No. 10483; IC₅₀ = 70 nM).^{1,2} CUDC-305 induces degradation of Hsp90 client proteins in BT-474 breast cancer cells and inhibits proliferation of 40 human cancer cell lines (IC₅₀s = 0.04-0.9 μM).¹ It also reduces the levels of several oncoproteins including Akt and phosphorylated Akt, and ERK1/2 and phosphorylated ERK1/2 in a variety of cancer cell lines. CUDC-305 (40-160 mg/kg) dose-dependently reduces tumor growth in a U87MG glioblastoma mouse xenograft model and, when administered at a dose of 160 mg/kg, prolongs survival in a U87MG mouse orthotopic model.

References

1. Bao, R., Lai, C.-J., Qu, H., *et al.* CUDC-305, a novel synthetic HSP90 inhibitor with unique pharmacologic properties for cancer therapy. *Clin Cancer Res.* **15**(12), 4046-4057 (2009).
2. Bao, R., Lai, C.-J., Wang, D.-G., *et al.* Targeting heat shock protein 90 with CUDC-305 overcomes erlotinib resistance in non-small cell lung cancer. *Mol. Cancer Ther.* **8**(12), 3296-3306 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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