

PRODUCT INFORMATION

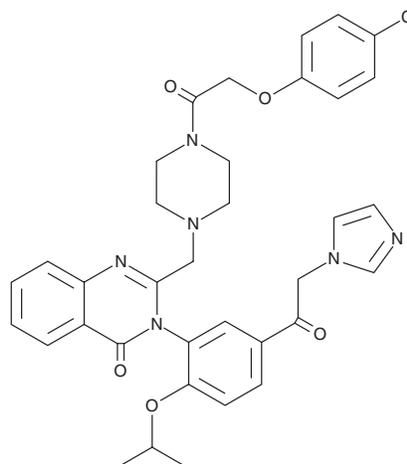


Imidazole Ketone Erastin

Item No. 27088

CAS Registry No.: 1801530-11-9
Formal Name: 2-[[4-[2-(4-chlorophenoxy)acetyl]-1-piperazinyl]methyl]-3-[5-[2-(1H-imidazol-1-yl)acetyl]-2-(1-methylethoxy)phenyl]-4(3H)-quinazolinone

Synonym: IKE
MF: C₃₅H₃₅ClN₆O₅
FW: 655.1
Purity: ≥98%
UV/Vis.: λ_{max}: 227, 275 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

Imidazole ketone erastin is supplied as a crystalline solid. A stock solution may be made by dissolving the imidazole ketone erastin in the solvent of choice. Imidazole ketone erastin is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of imidazole ketone erastin in these solvents is approximately 1 and 10 mg/ml, respectively.

Imidazole ketone erastin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, imidazole ketone erastin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Imidazole ketone erastin has a solubility of approximately 0.25 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Imidazole ketone erastin is an inducer of ferroptosis.¹ It inhibits glutamate release in human CCF-STTG1 astrocytoma cells (IC₅₀ = 30 nM), indicating inhibition of the system x_c⁻ cystine/glutamate transporter.² Imidazole ketone erastin increases production of lipid reactive oxygen species (ROS) in SUDHL6 diffuse large B cell lymphoma (DLBCL) cells in a concentration-dependent manner, as well as reduces glutathione (GSH) levels in these cells (IC₅₀ = 34 nM).¹ It inhibits the growth of HT-1080 fibrosarcoma cells (GI₅₀ = 310 nM) as well as HRAS^{G12V}-overexpressing BJeLR cells (IC₅₀ = 3 nM).² Imidazole ketone erastin (23 and 40 mg/kg) reduces tumor growth in an SUDHL6 mouse xenograft model.¹

References

1. Zhang, Y., Tan, H., Daniels, J.D., *et al.* Imidazole ketone erastin induces ferroptosis and slows tumor growth in a mouse lymphoma model. *Cell Chem. Biol.* **26(5)**, 623-633 (2019).
2. Larraufie, M.-H., Yang, W.S., Jiang, E., *et al.* Incorporation of metabolically stable ketones into a small molecule probe to increase potency and water solubility. *Bioorg. Med. Chem. Lett.* **25(21)**, 4787-4792 (2015).

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.

WARRANTY AND LIMITATION OF REMEDY

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM