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- Trockeneiszuschlag
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- Expressversand

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PRODUCT INFORMATION



NSC 95397

Item No. 21431

CAS Registry No.: 93718-83-3

Formal Name: 2,3-bis[(2-hydroxyethyl)thio]-1,4-naphthalenedione

Synonyms: Cdc25 Inhibitor IV, PTP Inhibitor XXIX

MF: $C_{14}H_{14}O_4S_2$

FW: 310.4

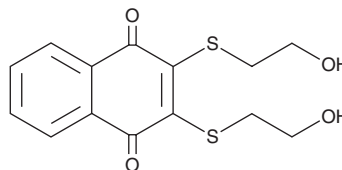
Purity: $\geq 98\%$

UV/Vis.: λ_{max} : 240, 274, 452 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

NSC 95397 is supplied as a crystalline solid. A stock solution may be made by dissolving the NSC 95397 in the solvent of choice. NSC 95397 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of NSC 95397 in ethanol is approximately 0.33 mg/ml and approximately 30 mg/ml in DMSO and DMF.

NSC 95397 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NSC 95397 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NSC 95397 has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

NSC 95397 is a 1,4-naphthoquinone-based irreversible inhibitor of Cdc25 dual-specificity phosphatases, with K_i values of 32, 96, and 40 nM for Cdc25A, Cdc25B, and Cdc25C, respectively.¹ It displays >125-fold selectivity for Cdc25 over VH1-related dual-specificity phosphatase and protein tyrosine phosphatase 1b. NSC 95397 significantly inhibits the growth of human and murine carcinoma cells, blocking G_2/M phase transition.^{1,2} In rat liver epithelial cells, NSC 95397 induces cell cycle arrest, which is associated with phosphorylation of EGFR, activation of ERK1/2, phosphorylation of connexin43, and downregulation of gap junctional intercellular communication.³

References

1. Lazo, J.S., Nemoto, K., Pestell, K.E., *et al.* Identification of a potent and selective pharmacophore for Cdc25 dual specificity phosphatase inhibitors. *Mol. Pharmacol.* **61**(4), 720-728 (2002).
2. Han, Y., Shen, H., Carr, B.I., *et al.* NAD(P)H:quinone oxidoreductase-1-dependent and -independent cytotoxicity of potent quinone Cdc25 phosphatase inhibitors. *J. Pharmacol. Exp. Ther.* **309**(1), 64-70 (2004).
3. Melchheier, I., von Montfort, C., Stuhlmann, D., *et al.* Quinone-induced Cdc25A inhibition causes ERK-dependent connexin phosphorylation. *Biochem. Biophys. Res. Commun.* **327**(4), 1016-1023 (2005).

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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