

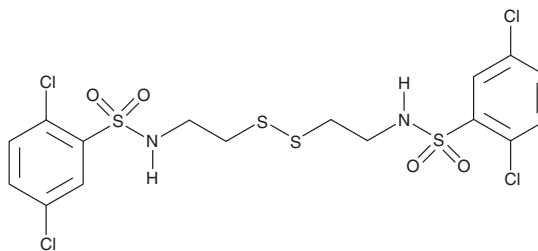
PRODUCT INFORMATION



KC7F2

Item No. 14123

CAS Registry No.: 927822-86-4
Formal Name: N,N'-(dithiodi-2,1-ethanediyl)bis
[2,5-dichloro]-benzenesulfonamide
MF: C₁₆H₁₆Cl₄N₂O₄S₄
FW: 570.4
Purity: ≥98%
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

KC7F2 is supplied as a crystalline solid. A stock solution may be made by dissolving the KC7F2 in the solvent of choice, which should be purged with an inert gas. KC7F2 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of KC7F2 in these solvents is approximately 14 and 20 mg/ml, respectively.

KC7F2 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, KC7F2 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. KC7F2 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Hypoxia-inducible factor-1 (HIF-1) is a heterodimeric transcription factor composed of a HIF-1 α subunit and HIF-1 β subunit. The HIF-1 α subunit is regulated by cellular oxygen levels and therefore plays an important role in maintaining cellular oxygen homeostasis.^{1,2} KC7F2 is an inhibitor of HIF-1 α protein translation, but not transcription, that suppresses phosphorylation of two key regulators of protein synthesis, eukaryotic translation initiation factor 4E binding protein 1 (4EBP1) and p70 S6 kinase (S6K).³ It inhibits hypoxia-induced expression of several HIF target genes, such as carbonic anhydrase IX, matrix metalloproteinase 2, enolase 1, and endothelin 1. KC7F2 is cytotoxic to a variety of cancer cell lines with an IC₅₀ value of 15-25 μ M.³

References

1. Wang, G.L., Jiang, B.-H., Rue, E.A., *et al.* Hypoxia-inducible factor 1 is a basic-helix-loop-helix-PAS heterodimer regulated by cellular O₂ tension. *Proc. Natl. Acad. Sci. USA* **92**(12), 5510-5514 (1995).
2. Safran, M. and Kaelin, W.G., Jr. HIF hydroxylation and the mammalian oxygen-sensing pathway. *J. Clin. Invest.* **111**(6), 779-783 (2003).
3. Narita, T., Yin, S., Gelin, C.F., *et al.* Identification of a novel small molecule HIF-1 α translation inhibitor. *Clin. Cancer Res.* **15**(19), 6128-6136 (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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