

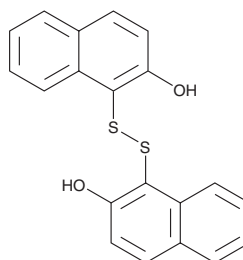
PRODUCT INFORMATION



IPA-3

Item No. 14759

CAS Registry No.: 42521-82-4
Formal Name: 1,1'-dithiobis-2-naphthalenol
Synonym: Inhibitor of PAK1 Activation 3
MF: C₂₀H₁₄O₂S₂
FW: 350.5
Purity: ≥95%
UV/Vis.: λ_{max}: 223, 357 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

IPA-3 is supplied as a crystalline solid. A stock solution may be made by dissolving the IPA-3 in the solvent of choice, which should be purged with an inert gas. IPA-3 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of IPA-3 in these solvents is approximately 5 mg/ml.

IPA-3 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, IPA-3 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. IPA-3 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

IPA-3 is an allosteric inhibitor of p21-activated kinase 1 (PAK1) activation (IC₅₀ = 2.5 μM) that does not inhibit pre-activated PAK1.¹ It selectively inhibits activation of the group I PAKs, PAK1, PAK2, and PAK3 over the group II PAKs, PAK4, PAK5, and PAK6 at 10 μM. IPA-3 inhibits the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) endoribonuclease nsp15 in a FRET assay (IC₅₀ = 6.8 μM) and inhibits SARS-CoV-2 replication in infected Vero CCL-81 cells (IC₅₀ = 8.5 μM).² It inhibits the proliferation of H2M and MHCC97-L metastatic hepatocellular carcinoma (HCC) and non-metastatic HepG2 HCC cells when used at concentrations of 5 and 10 μM. IPA-3 (2 and 4 mg/kg) reduces tumor growth in an MHCC97-L cell mouse xenograft model.³

References

1. Deacon, S.W., Beeser, A., Fukui, J.A., *et al.* An isoform-selective, small-molecule inhibitor targets the autoregulatory mechanism of p21-activated kinase. *Chem. Biol.* **15**(4), 322-331 (2008).
2. Chen, J., Farraj, R.A., Velazquez, D.L., *et al.* Reversible and irreversible inhibitors of coronavirus Nsp15 endoribonuclease. *J. Biol. Chem.* **11**, 105341 (2023).
3. Wong, L.L.-Y., Lam, I.P.-Y., Wong, T.Y.-N., *et al.* IPA-3 inhibits the growth of liver cancer cells by suppressing PAK1 and NF-κB activation. *PLoS One* **8**(7), e68843 (2013).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 10/23/2023

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