Print Date: Nov 11th 2019

Certificate of Analysis

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Product Name: **IPA 3** **Catalog No.: 3622** **Batch No.: 3**

CAS Number: 42521-82-4

IUPAC Name: 1,1'-Dithiodi-2-naphthtol

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{14}O_2S_2$

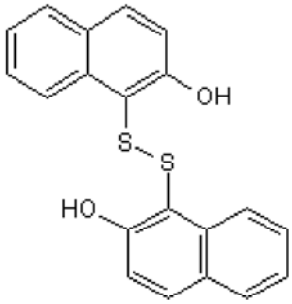
Batch Molecular Weight: 350.45

Physical Appearance: Yellow solid

Solubility: DMSO to 75 mM
ethanol to 10 mM with gentle warming

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 96.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	68.55	4.03	
Found	68.23	3.93	

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CAS Number: 42521-82-4

IUPAC Name: 1,1'-Dithiodi-2-naphthtol

Description:

Group I p21-activated kinase (PAK) inhibitor (IC_{50} = 2.5 µM at PAK1). Targets the autoregulatory mechanism and promotes the inactive conformation of PAKs. Inhibits PAK1-mediated signaling in vivo; potential anti-tumor agent. Negative Control also available.

Physical and Chemical Properties:

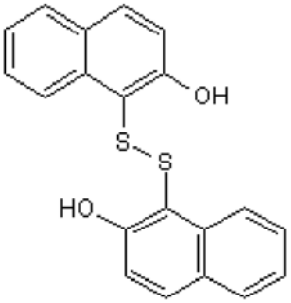
Batch Molecular Formula: $C_{20}H_{14}O_2S_2$

Batch Molecular Weight: 350.45

Physical Appearance: Yellow solid

Minimum Purity: >96%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 75 mM
ethanol to 10 mM with gentle warming

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Wang *et al* (2016) P21-activated kinase inhibitors FRAX486 and IPA3: inhibition of prostate stromal cell growth and effects on smooth muscle contraction in the human prostate. PLoS One ***11*** e0153312. PMID: 27071060.

Takahashi and Suzuki (2009) Membrane transport of WAVE2 and lamellipodia formation require Pak1 that mediates phosphorylation and recruitment of stathmin/op18 to Pak1-WAVE2-kinesin complex. Cell.Signal. ***21*** 695. PMID: 19162178.

Viaud and Peterson (2009) An allosteric kinase inhibitor binds the p21-activated kinase (Pak) autoregulatory domain covalently. Mol.Cancer Ther. ***8*** 2559. PMID: 19723886.

Deacon *et al* (2008) An isoform-selective, small-molecule inhibitor targets the autoregulatory mechanism of p21-activated kinase. Chem.Biol. ***15*** 322. PMID: 18420139.

Kumar *et al* (2006) p21-activated kinases in cancer. Nat.Rev.Cancer ***6*** 459. PMID: 16723992.

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