

Certificate of Analysis

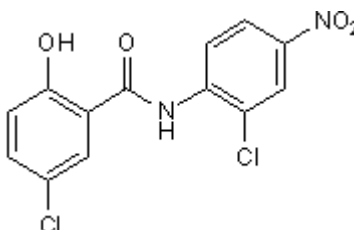
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Product Name: Niclosamide
CAS Number: 50-65-7
IUPAC Name: 5-Chloro-N-(2-chloro-4-nitrophenyl)-2-hydroxybenzamide

Catalog No.: 4079
Batch No.: 1
EC Number: 200-056-8

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₈Cl₂N₂O₄
Batch Molecular Weight: 325.99
Physical Appearance: Pale yellow solid
Solubility: ethanol to 25 mM
 DMSO to 10 mM
Storage: Store at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	47.73	2.46	8.56
Found	47.8	2.43	8.51

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Inhibitor of the STAT3 signaling pathway; inhibits the activation, nuclear translocation and transactivation of STAT3. Displays selectivity for STAT3 over STAT1, STAT5, JAK1, JAK2 and Src kinases. Inhibits the transcription of STAT3 target genes and induces cell growth inhibition, apoptosis and cell cycle arrest of cancer cells with constitutively active STAT3. Also reversibly inhibits mTORC1 signaling and stimulates autophagy in vitro; displays antineoplastic effects in acute myelogenous leukemia (AML) stem cells.

Physical and Chemical Properties:

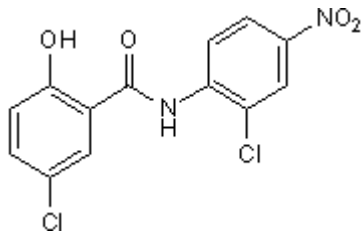
Batch Molecular Formula: C₁₃H₈Cl₂N₂O₄

Batch Molecular Weight: 325.99

Physical Appearance: Pale yellow solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

ethanol to 25 mM

DMSO to 10 mM

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:

Balgi et al (2009) Screen for chemical modulators of autophagy reveals novel therapeutic inhibitors of mTORC1 signaling. *PLoS One* **4** e7124. PMID: 19771169.

Jin et al (2010) Antineoplastic mechanisms of niclosamide in acute myelogenous leukemia stem cells: inactivation of the NF-κB pathway and generation of reactive oxygen species. *Cancer Res.* **70** 2516. PMID: 20215516.

Ren et al (2010) Identification of niclosamide as a new small-molecule inhibitor of the STAT3 signaling pathway. *ACS Med.Chem.Lett.* **1** 454.

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