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DATASHEET

Niclosamide

Product overview

Name	Niclosamide
Cat No	HB1435
Biological action	Inhibitor
Purity	>98%
Description	STAT3 signaling pathway inhibitor. Antineoplastic against AML stem cells.

Biological Data

Biological description STAT3 signaling pathway inhibitor which inhibits the activation and transcriptional function of STAT3 and induces cell growth inhibition, apoptosis, and cell cycle arrest of cancer cells with constitutively active STAT3. Shows selectivity for STAT3 over STAT1, STAT5, JAK1, JAK2 and Src kinases.

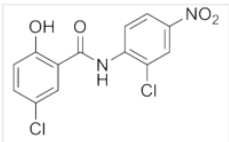
Also inhibits mTORC and Wnt/ β -catenin pathways. Antineoplastic against AML stem cells.

Shows antiproliferative, anticancer, antidiabetic actions. Shows antiparasitic actions and recently investigated as part of COVID-19 compound repurposing.

Solubility & Handling

Storage instructions	+4 °C
Solubility overview	Soluble in DMSO (10mM), and in ethanol (10mM, gentle warming)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	5-Chloro- <i>N</i> -(2-chloro-4-nitrophenyl) -2-hydroxybenzamide
Molecular Weight	325.99
Chemical structure	
Molecular Formula	C ₁₃ H ₈ Cl ₂ N ₂ O ₄
CAS Number	50-65-7
PubChem identifier	4477
SMILES	C1=CC(=C(C=C1[N+](=O)[O-])Cl)NC(=O)C2=C(C=CC(=C2)Cl)O
InChi	InChI=1S/C13H8Cl2N2O4/c14-7-1-4-12(18)9(5-7)13(19)16-11-3-2-8(17(20)21)6-10(11)15/h1-6,18H,(H,16,19)
InChiKey	RJMUSRYZPJFJPJ-UHFFFAOYSA-N
MDL number	MFCD00057597
Appearance	White solid

References

Identification of Niclosamide as a New Small-Molecule Inhibitor of the STAT3 Signaling Pathway.

Ren X *et al* (2010) ACS Med Chem Lett 1(9)

PubMedID [24900231](#)

Niclosamide ethanolamine-induced mild mitochondrial uncoupling improves diabetic symptoms in mice.

Tao H *et al* (2014) Nat Med 20(11)

PubMedID [25282357](#)

Screen for chemical modulators of autophagy reveals novel therapeutic inhibitors of mTORC1 signaling.

Balgi AD *et al* (2009) PLoS One 4(9)

PubMedID [19771169](#)

Inhibition of severe acute respiratory syndrome coronavirus replication by niclosamide

Hsu *et al* (2639-6) Antimicrob Agents Chemother. 48(7)

Species [15215127](#)

PubMedID [2004](#)
