

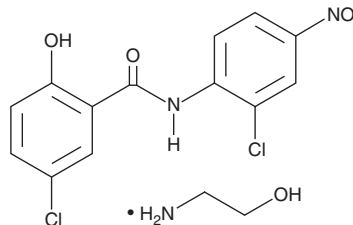
PRODUCT INFORMATION



Niclosamide (ethanolamine salt)

Item No. 17118

CAS Registry No.: 1420-04-8
Formal Name: 5-chloro-N-(2-chloro-4-nitrophenyl)-2-hydroxy-benzamide compd. with 2-aminoethanol
Synonyms: Bayluscide, NEN
MF: $C_{13}H_8Cl_2N_2O_4 \cdot C_2H_7NO$
FW: 388.2
Purity: $\geq 98\%$
Stability: ≥ 2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 210, 235, 331 nm



Laboratory Procedures

For long term storage, we suggest that niclosamide (ethanolamine salt) be stored as supplied at -20°C . It should be stable for at least two years.

Niclosamide (ethanolamine salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the niclosamide (ethanolamine salt) in the solvent of choice. Niclosamide (ethanolamine salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of niclosamide (ethanolamine salt) in ethanol is approximately 0.25 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Niclosamide (ethanolamine salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, niclosamide (ethanolamine salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Niclosamide (ethanolamine salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Niclosamide (Item No. 10649) is an antihelmintic compound that affects mitochondrial metabolism in parasitic worms.^{1,2} It specifically inhibits the signal transducer and activator of transcription 3 ($IC_{50} = 0.25 \mu\text{M}$) and stimulates autophagy by reversibly inhibiting mTORC1 signaling (complete inhibition of S6K phosphorylation at $3 \mu\text{M}$).^{2,3} Niclosamide ethanolamine is a more water soluble, salt version of niclosamide that has been used to increase energy expenditure and lipid metabolism in mice.⁴ At 125 mg/kg/day, niclosamide ethanolamine prevented high-fat diet-induced hepatic steatosis and insulin resistance and improved glycemic control in *db/db* mice.⁴

References

1. Pampori, N.A., Singh, G., and Srivastava, V.M.L. Energy metabolism in *Cotugnia digonopora* and the effect of anthelmintics. *Mol. Biochem. Parasitol.* **11**, 205-213 (1984).
2. Balgi, A.D., Fonseca, B.D., Donohue, E., *et al.* Screen for chemical modulators of autophagy reveals novel therapeutic inhibitors of mTORC1 signaling. *PLoS One* **4**(9), (2009).
3. Ren, X., Duan, L., He, Q., *et al.* Identification of niclosamide as a new small-molecule inhibitor of the STAT3 signaling pathway, [In Press] *ACS Med. Chem. Lett.* (2010).
4. Tao, H., Zhang, Y., Zeng, X., *et al.* Niclosamide ethanolamine-induced mild mitochondrial uncoupling improves diabetic symptoms in mice. *Nat. Med.* **20**(11), 1263-1269 (2014).

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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