# Niclosamide (GMP)

**Cat. No.:** HY-B0497G

**CAS No.:** 50-65-7

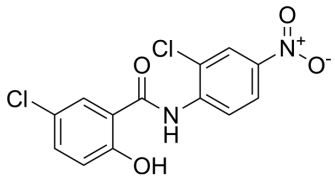
**Molecular Formula:** $C_{13}H_8Cl_2N_2O_4$

**Molecular Weight:** 327.12

**Target:** Antibiotic; Parasite; STAT

**Pathway:** Anti-infection; JAK/STAT Signaling; Stem Cell/Wnt

**Storage:** Please store the product under the recommended conditions in the Certificate of Analysis.



## BIOLOGICAL ACTIVITY

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| **Description** | Niclosamide (GMP) is Niclosamide (HY-B0497) produced by using GMP guidelines. GMP small molecules work appropriately as an auxiliary reagent for cell therapy manufacture. Niclosamide (BAY2353) is an orally active antihelminthic agent used in parasitic infection research[1]. Niclosamide is a STAT3 inhibitor with an $IC_{50}$ of 0.25 μM in HeLa cells[4]. Niclosamide has biological activities against cancer, inhibits DNA replication in Vero E6 cells[2][3][5]. |
| **In Vitro** | Niclosamide (0.6 nM-46 μM) treatment inhibits adrenocortical carcinoma cellular proliferation in BD140A, SW-13, and NCI-H295R cells[3].<br>Niclosamide (0.05-5 μM, 24 h) treatment inhibits STAT3-mediated luciferase reporter activity in HeLa cells [4].<br>Niclosamide (10 μM) inhibits virus replication in Vero E6 cells.<br><br>Niclosamide (GMP) (up to 2 μM, 24 h) inhibits Zika virus infection in SNB-19 cells[6].<br>Niclosamide (GMP) (1.5 μM□5 d) inhibits nuclear factor□κB ligand (RANKL)-induced transdifferentiation of macrophages into osteoclast precursors, particularly in the early stage of osteoclastogenesis[7].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Niclosamide (oral gavage; 100 mg/kg, 200 mg/kg; once a week; 8 weeks) treatment inhibits adrenocortical carcinoma tumor growth in vivo[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## CUSTOMER VALIDATION

- Cell Res. 2022 Jun;32(6):513-529.
- Emerg Microbes Infect. 2022 Dec;11(1):483-497.
- Cell Syst. 2018 Apr 25;6(4):424-443.e7.
- Cell Death Dis. 2022 Feb 3;13(2):112.
- Antiviral Res. January 2022, 105228.

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## REFERENCES


[1]. P Andrews, et al. The biology and toxicology of molluscicides, Bayluscide. Pharmacol Ther. 1982;19(2):245-95.

[2]. Wei Chen, et al. Niclosamide: Beyond an antihelminthic drug. Cell Signal. 2018 Jan;41:89-96.

[3]. Kei Satoh, et al. Identification of Niclosamide as a Novel Anticancer Agent for Adrenocortical Carcinoma. Clin Cancer Res. 2016 Jul 15;22(14):3458-66.

[4]. Xiaomei Ren, et al. Identification of Niclosamide as a New Small-Molecule Inhibitor of the STAT3 Signaling Pathway. ACS Med Chem Lett. 2010 Sep 7;1(9):454-9.

[5]. Chang-Jer Wu, et al. Inhibition of severe acute respiratory syndrome coronavirus replication by niclosamide. Antimicrob Agents Chemother. 2004 Jul;48(7):2693-6.

[6]. Xu M, Lee EM, Wen Z, et al. Identification of small-molecule inhibitors of Zika virus infection and induced neural cell death via a drug repurposing screen. Nat Med. 2016;22(10):1101-1107.

[7]. Jiao Y, Chen C, Hu X, et al. Niclosamide and its derivative DK-520 inhibit RANKL-induced osteoclastogenesis. FEBS Open Bio. 2020;10(8):1685-1697. doi:10.1002/2211-5463.12921





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