



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at RT  
#69857

## Niclosamide

1 g

**For Research Use Only. Not for Use in Diagnostic Procedures.**

### Background

Niclosamide is a STAT3 inhibitor ( $IC_{50} = 0.25 \mu M$ ) known to induce apoptosis and cell cycle arrest (1). This small molecule stimulates autophagy by reversibly inhibiting mammalian target of rapamycin complex 1 (mTORC1) signaling and inhibiting phosphorylation of ribosomal S6 kinases at certain concentrations (2). In clinical settings, Niclosamide has been used to treat parasitic-driven diseases in humans as an antihelminthic drug. Studies have shown Niclosamide to be an effective antiviral agent, inhibiting the replication of SARS-CoV (3).

### Molecular Formula

$C_{13}H_8Cl_2N_2O_4$

### Molecular Weight

327.1 g/mol

### Purity

>98%

### CAS

50-65-7

### Solubility

Soluble in DMSO at 14 mg/ml or ethanol at 6 mg/ml.

### Storage

Store lyophilized at room temperature, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at  $-20^{\circ}C$  and use within 3 months to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

### Directions for Use

Niclosamide is supplied as a lyophilized powder. For a 15 mM stock, reconstitute 5 mg of powder in 1.02 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

### Background References

- Ren, X. et al. (2010) *ACS Med Chem Lett* 1, 454-9.
- Balgi, A.D. et al. (2009) *PLoS One* 4, e7124.
- Wu, C.J. et al. (2004) *Antimicrob Agents Chemother* 48, 2693-6.

### Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

### Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.

