

# PRODUCT INFORMATION



**NCH-51**

Item No. 21234

**CAS Registry No.:** 848354-66-5

**Formal Name:** S-[7-oxo-7-[(4-phenyl-2-thiazolyl)amino]heptyl] ester, 2-methyl-propanethioic acid

**Synonym:** PTACH

**MF:** C<sub>20</sub>H<sub>26</sub>N<sub>2</sub>O<sub>2</sub>S<sub>2</sub>

**FW:** 390.6

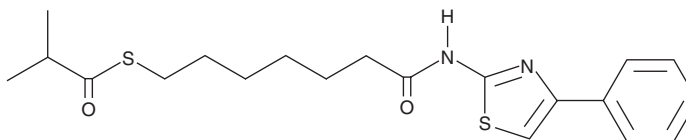
**Purity:** ≥98%

**UV/Vis.:** λ<sub>max</sub>: 233, 269 nm

**Supplied as:** A crystalline solid

**Storage:** -20°C

**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

## Laboratory Procedures

NCH-51 is supplied as a crystalline solid. A stock solution may be made by dissolving the NCH-51 in the solvent of choice, which should be purged with an inert gas. NCH-51 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of NCH-51 in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

NCH-51 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NCH-51 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NCH-51 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

NCH-51 is an inhibitor of histone deacetylases (HDACs) with IC<sub>50</sub> values of 48, 32, and 41 nM for HDAC1, 4, and 6, respectively.<sup>1</sup> It increases acetylation of histone H4 and α-tubulin in HCT116 cells when used at concentrations ranging from 1 to 25 μM and inhibits the growth of a variety of cancer cell lines (EC<sub>50</sub>s = 1.1-9.1 μM).<sup>2,3</sup> NCH-51 (0.4-1.6 μM) also induces HIV-1 viral replication in OM10.1 and ACH-2 cells latently infected with HIV-1 when used alone and, to a greater effect, when used in the presence of TNF-α, with cytotoxic concentration (CC<sub>50</sub>) values of approximately 2 μM for both cell lines.<sup>1</sup>

## References

- Victoriano, A.F.B., Imai, K., Togami, H., *et al.* Novel histone deacetylase inhibitor NCH-51 activates latent HIV-1 gene expression. *FEBS Lett.* **585**(7), 1103-1111 (2011).
- Suzuki, T., Kouketsu, A., Itoh, Y., *et al.* Highly potent and selective histone deacetylase 6 inhibitors designed based on a small-molecular substrate. *J. Med. Chem.* **49**(16), 4809-4812 (2006).
- Suzuki, T., Nagano, Y., Kouketsu, A., *et al.* Novel inhibitors of human histone deacetylases: Design, synthesis, enzyme inhibition, and cancer cell growth inhibition of SAHA-based non-hydroxamates. *J. Med. Chem.* **48**(4), 1019-1032 (2005).

### 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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