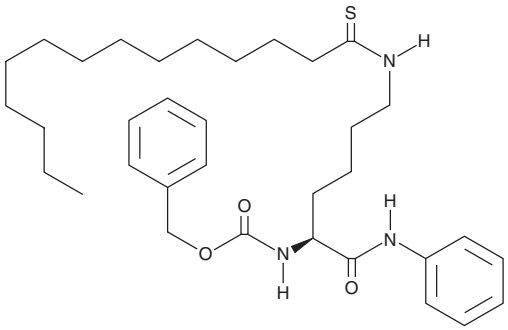
PRODUCT INFORMATION

Thiomyristoyl

Item No. 19398

CAS Registry No.: 1429749-41-6
Formal Name: N-[(1S)-1-[(phenylamino) carbonyl]-5-[(1-thioxotetradecyl) amino]pentyl]-carbamic acid, phenylmethyl ester
Synonym: TM
MF: $C_{34}H_{51}N_3O_3S$
FW: 581.9
Purity: ≥98%
UV/Vis.: λ_{max}: 247 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Thiomyristoyl (TM) is supplied as a crystalline solid. A stock solution may be made by dissolving the TM in the solvent of choice. TM is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of TM in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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

TM is a potent and selective inhibitor of SIRT2 with IC_{50} values of 0.028, 98, >200, and >200 µM for SIRT2, SIRT1, SIRT3, and SIRT5-7, respectively.[1] It inhibits acetyl-H3K9 peptide and NAD binding to SIRT2 and promotes c-Myc degradation in a dose-dependent manner. TM exhibits selective cytotoxicity with IC_{50} values ranging from 8.4-36.8 and >50 µM for cancerous and non-cancerous cell lines, respectively. It decreases α-tubulin acetylation, a marker of SIRT2 activity, in a dose-dependent manner in MDA-MB-231 breast cancer cells while having no effect on the SIRT1 target p53. Intratumor administration of TM decreases tumor volume and increases areas of necrosis in an MDA-MB-231 mouse breast cancer xenograft model. TM also increases tumor-free survival time in a MMTV-PyMT mouse mammary tumor model.

Reference

1. Jing, H., Hu, J., He, B., *et al.* A SIRT2-selective inhibitor promotes c-Myc oncoprotein degradation and exhibits broad anticancer activity. *Cancer Cell* **29(3)**, 297-310 (2016).

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