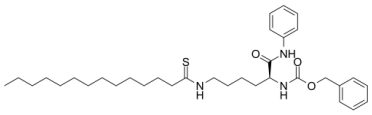
Data Sheet

Product Name:	Thiomyristoyl
Cat. No.:	CS-6258
CAS No.:	1429749-41-6
Molecular Formula:	C34H51N3O3S
Molecular Weight:	581.85
Target:	Sirtuin
Pathway:	Cell Cycle/DNA Damage; Epigenetics
Solubility:	DMSO : ≥ 32 mg/mL (55.00 mM)



BIOLOGICAL ACTIVITY:

Thiomyristoyl is a potent and specific **SIRT2** inhibitor with an **IC_{50}** of 28 nM. IC50 & Target: IC50: 28 nM (SIRT2), 98 μM (SIRT1)[1] **In Vitro:** Thiomyristoyl (TM) is a potent SIRT2-specific inhibitor with broad anticancer activity but little effect on non-cancerous cells. SIRT2-inhibition promotes c-Myc ubiquitination and degradation, suggesting the therapeutic potential of TM to target certain c-Myc-driven cancers. TM could inhibit SIRT2 with an IC_{50} of 28 nM, but inhibits SIRT1 with an IC_{50} value of 98 μM and does not inhibit SIRT3 even at 200 μM. TM inhibits three human breast cancer cell lines, MCF-7, MDA-MB-468, and MDA-MB-231[1]. **In Vivo:** TM inhibits tumor growth in mouse models of breast cancer. TM does not cause significant toxicity in mice and no significant weight loss is observed in TM-treated mice. S5H, the acetyl-a-tubulin level is moderately but statistically significantly increased in tumors from TM-treated mice compared with those from vehicle-treated mice, suggesting that TM indeed inhibits SIRT2 in vivo[1].

PROTOCOL (Extracted from published papers and Only for reference)

Cell Assay: [1]Cells are seeded into 96-well plates at 3,000–4,000 cells per well. After 24 hr, test compounds (Thiomyristoyl) are added to cells to final concentrations ranging from 1 to 50 μM. Cells are then incubated for 72 hr and cell viability is measured using the CellTiter-Blue viability assay. Relative cell viability in the presence of test compounds is normalized to the vehicle-treated controls after background subtraction. GraphPad Prism software is used to determine the IC_{50} values. Knockdown of SIRT1-7 in various cell lines is achieved by lentiviral infection[1].

References:

[1]. Jing H, et al. A SIRT2-Selective Inhibitor Promotes c-Myc Oncoprotein Degradation and Exhibits Broad Anticancer Activity. Cancer Cell. 2016 Mar 14;29(3):297-310.

CAIndexNames:

Carbamic acid, N-[(1S)-1-[(phenylamino)carbonyl]-5-[(1-thioxotetradecyl)amino]pentyl]-, phenylmethyl ester

SMILES:

O=C(OCC1=CC=CC=C1)N[C@H](C(NC2=CC=CC=C2)=O)CCCCNC(CCCCCCCCCCCCC)=S

Caution: Product has not been fully validated for medical applications. For research use only.

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