

Product Data Sheet

Product Name: Lucanthone

Cat. No.: GC33126

Chemical Properties

Cas. No. 479-50-5

SMILES O=C1C2=C(SC3=C1C=CC=C3)C(C)=CC=C2NCCN(CC)CC

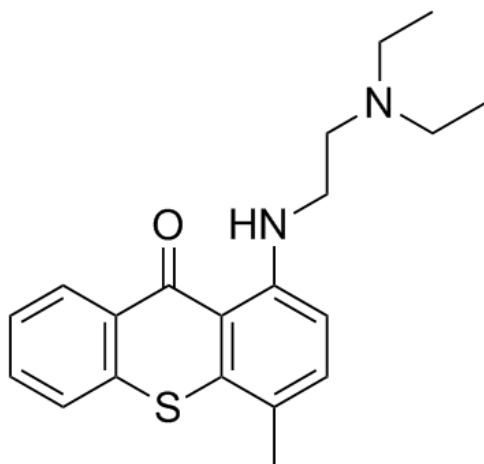
Formula $C_{20}H_{24}N_2OS$ M.Wt 340.48

Solubility DMSO : 25 mg/mL (73.43 mM) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

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

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Cell experiment: Cell viability is assessed by MTT assay. Cells are seeded into 96-well microculture plates at 10,000 cells per well and allowed to attach for 24 h. Cells are then treated with Lucanthone (0, 0.5, 1, 5, 10, 20 and 40 μ M), Chloroquine, Vorinostat, or combinations for 72 h. Following drug treatment, MTT is added and cell viability is quantified using a BioTek microplate reader. Effects on cell viability are also determined by measuring ATP levels using the ATPlite assay system and by trypan blue exclusion. Pro-apoptotic effects following in vitro drug exposure are quantified by propidium iodide (PI) staining and fluorescence-activated cell sorting (FACS) analysis of sub-G0/G1 DNA content[2].

References:

- [1]. Chowdhury SM, et al. Graphene nanoribbons as a drug delivery agent for lucanthone mediated therapy of glioblastoma multiforme. *Nanomedicine*. 2015 Jan;11(1):109-18.
[2]. Carew JS, et al. Lucanthone is a novel inhibitor of autophagy that induces cathepsin D-mediated apoptosis. *J Biol Chem*. 2011 Feb 25;286(8):6602-13.

Background

Lucanthone is an endonuclease inhibitor of Apurinic endonuclease-1 (APE-1).

Lucanthone is a novel inhibitor of autophagy that induces cathepsin D-mediated apoptosis. To investigate the anticancer activity of Lucanthone, cell viability is measured by MTT assay. Lucanthone reduces cell viability to a similar extent in a panel of seven breast cancer cell lines. In addition, a direct comparison reveals that Lucanthone is significantly more potent than Chloroquine (CQ) at reducing breast cancer cell viability with a mean IC₅₀ of 7.2 μ M versus 66 μ M for CQ. Measurement of cell viability in two representative cell lines (MDA-MB-231 and BT-20) by ATPlite assay and trypan blue exclusion reveals comparable results[2].

- [1]. Chowdhury SM, et al. Graphene nanoribbons as a drug delivery agent for lucanthone mediated therapy of glioblastoma multiforme. *Nanomedicine*. 2015 Jan;11(1):109-18. [2]. Carew JS, et al. Lucanthone is a novel inhibitor of autophagy that induces cathepsin D-mediated apoptosis. *J Biol Chem*. 2011 Feb 25;286(8):6602-13.

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