

Product Datasheet

LHVS

Catalog No. **BP-02382** · CAS **170111-28-1** · Form **free base** · Physical state **solid** · Color **White to off-white** · Version **1.0** · Revision **2026-09-11**

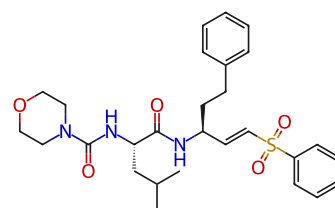
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Target Cathepsin; Parasite	Research area Infection; Neurological Disease
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Molecular formula **C₂₈H₃₇N₃O₅S**

Molecular weight **527.6750**

STRUCTURE



DESCRIPTION

LHVS is a potent, non-selective, irreversible, cell-permeable cysteine protease and cathepsin inhibitor. LHVS decreases actin ring formation. LHVS inhibits *T. gondii* invasion with an IC₅₀ of 10 μM.

BIOLOGICAL ACTIVITY

In Vivo

LHVS (3-30 mg/kg, SC, once) shows anti-hyperalgesic effect in neuropathic rats.

LHVS (30 nmol per rat, spinal delivery, daily) is antinociceptive in neuropathic rats.

LHVS (1-50 nmol per rat, Intrathecal injection, daily) reverses established neuropathic mechanical hyperalgesia in 14-day neuropathic rats.

SOLUBILITY

Soluble in DMSO

In vitro DMSO : 100 mg/mL

REFERENCES

- [1]. Wilson SR, et al. Cathepsin K activity-dependent regulation of osteoclast actin ring formation and bone resorption. *J Biol Chem.* 2009 Jan 23;284(4):2584-92.
- [2]. Teo CF, et al. Cysteine protease inhibitors block *Toxoplasma gondii* microneme secretion and cell invasion. *Antimicrob Agents Chemother.* 2007 Feb;51(2):679-88.
- [3]. Riese RJ, et al. Essential role for cathepsin S in MHC class II-associated invariant chain processing and peptide loading. *Immunity.* 1996 Apr;4(4):357-66.

[4]. Barclay J, et al. Role of the cysteine protease cathepsin S in neuropathic hyperalgesia. Pain. 2007 Aug;130(3):225-234.

[5]. Clark AK, et al. Inhibition of spinal microglial cathepsin S for the reversal of neuropathic pain. Proc Natl Acad Sci U S A. 2007 Jun 19;104(25):10655-60.

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Lot CoA and SDS are separate documents.