

PRODUCT INFORMATION

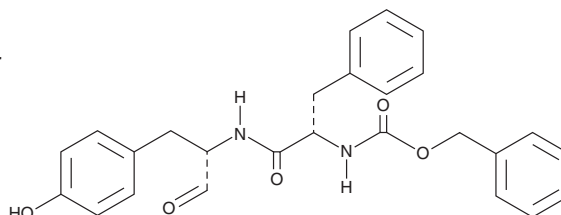


Cathepsin L Inhibitor

Item No. 23249

CAS Registry No.: 167498-29-5
Formal Name: N-[(1S)-2-[[[(1S)-1-formyl-2-(4-hydroxyphenyl)ethyl]amino]-2-oxo-1-(phenylmethyl)ethyl]-carbamic acid, phenylmethyl ester

Synonym: SB 412515
MF: C₂₆H₂₆N₂O₅
FW: 446.5
Purity: ≥95%
UV/Vis.: λ_{max}: 209 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

Cathepsin L inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the cathepsin L inhibitor in the solvent of choice, which should be purged with an inert gas. Cathepsin L inhibitor is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of cathepsin L inhibitor is approximately 2 mg/ml in ethanol and approximately 20 mg/ml in DMSO and DMF.

Description

Cathepsin L inhibitor is a potent inhibitor of cathepsin L (IC₅₀ = 0.85 nM).¹ It is selective for cathepsin L over calpain II and cathepsin B (IC₅₀s = 184, and 85.1 nM, respectively). It is trypanocidal with an ED₅₀ value of 45 nM against *T. brucei* that is well below the ED₅₀ value of 21,500 nM for human HL-60 cells.² Cathepsin L inhibitor completely suppresses osteoclastic pit formation on femur slices isolated from bovine cortical bone at a concentration of 1 µg/ml.^{1,3} *In vivo*, cathepsin L inhibitor (2.5-10 mg/kg) inhibits bone loss in a mouse model of osteoporosis in a dose-dependent manner.

References

1. Woo, J.-T., Sigeizumi, S., Yamaguchi, K., *et al.* Peptidyl aldehyde derivatives as potent and selective inhibitors of cathepsin L. *Bioorganic Med. Chem. Lett.* **5(14)**, 1501-1504 (1995).
2. Nkemngu, N.J., Grande, R., Hansell, E., *et al.* Improved trypanocidal activities of cathepsin L inhibitors. *Int. J. Antimicrob. Agents* **22(2)**, 155-159 (2003).
3. Woo, J.-T., Yamaguchi, K., Hayama, T., *et al.* Suppressive effect of N-(benzyloxycarbonyl)-L-phenylalanyl-L-tyrosinal on bone resorption *in vitro* and *in vivo*. *Eur. J. Pharmacol.* **300(1-2)**, 131-135 (1996).

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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