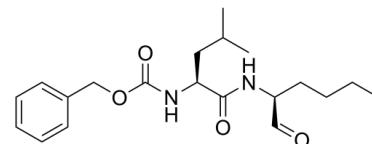


Data Sheet

Product Name:	Calpeptin
Cat. No.:	CS-0018353
CAS No.:	117591-20-5
Molecular Formula:	C ₂₀ H ₃₀ N ₂ O ₄
Molecular Weight:	362.46
Target:	Apoptosis; Cathepsin; Proteasome
Pathway:	Apoptosis; Metabolic Enzyme/Protease
Solubility:	DMSO : 100 mg/mL (ultrasonic)



BIOLOGICAL ACTIVITY:

Calpeptin is a potent, cell penetrating **calpain** inhibitor, with an **ID₅₀** of 40 nM for Calpain I in human platelets^[1]. Calpeptin is also an inhibitor of **cathepsin K**^[2]. IC₅₀ & Target: ID₅₀: 40 nM (Calpain I in human platelets)^[1].

Cathepsin K^[2] *In Vitro*: Calpeptin (0-100 nM, 24 hours) treatment suppresses the proliferation of both WI38 VA13 and IMR90 cells in a dose-dependent manner. Calpeptin (1000 pg/ml, 24 hours) inhibits IL-6-induced cell proliferation of lung fibroblasts^[3]. *In Vivo*:

Calpeptin with Bleo (0.04 mg/mouse, i.p., 3 times weekly, 28 days) administration significantly inhibits the collagen deposition and increases of calpain activity in the NSC-125066 treated mouse lung tissues^[3].

References:

- [1]. Tsujinaka T, et al. Synthesis of a new cell penetrating calpain inhibitor (calpeptin). *Biochem Biophys Res Commun*. 1988 Jun 30;153(3):1201-8.
- [2]. Catalano JG, et al. Design of small molecule ketoamide-based inhibitors of cathepsin K. *Bioorg Med Chem Lett*. 2004 Feb 9;14(3):719-22.
- [3]. Tabata C, et al. The calpain inhibitor calpeptin prevents pulmonary fibrosis in mice. *Clin Exp Immunol*. 2010 Dec;162(3):560-7.

CAIndexNames:

Carbamic acid, N-[(1S)-1-[[[(1S)-1-formylpentyl]amino]carbonyl]-3-methylbutyl]-, phenylmethyl ester

SMILES:

O=C(OCC1=CC=CC=C1)N[C@H](C(N[C@H](C=O)CCCC=O)CC(C)C

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

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