



LKT Laboratories, Inc.

Actinonin

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Product Information

Product ID A0978
CAS No. 13434-13-4
Chemical Name 3-((1-((2-[Hydroxymethyl]-1-pyrrolidinyl)carbonyl)-2-methylpropyl) carbamoyl)octanohydroxamic acid

Synonym Actinonine

Formula C₁₉H₃₅N₃O₅

Formula Wt. 385.50

Melting Point 141.5-142°C

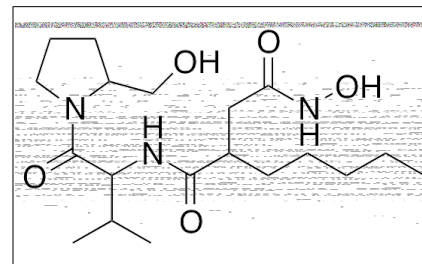
Purity ≥98%

Solubility Soluble in ethanol, DMSO, DMF, methanol, acetone. Insoluble in water.

Store Temp -20°C

Ship Temp Ambient

Description Actinonin is an inhibitor of peptide deformylase, matrix metalloproteinase meprin A, and aminopeptidase N (CD13). Actinonin exhibits anticancer, antibiotic, anti-inflammatory, and nephroprotective activities. In Burkitt's lymphoma cells, actinonin inhibits mitochondrial protein translation, inducing apoptosis. Actinonin exhibits antibacterial efficacy against many gram negative bacteria, including *Mycobacterium*. Additionally, in animal models of cecal ligation and puncture, actinonin decreases levels of IL-1β, preserving renal morphology and preventing alterations in renal capillary perfusion and sepsis.



Bulk quantities available upon request

Product ID	Size
A0978	5 mg

References Sheth A, Escobar-Alvarez S, Gardner J, et al. Inhibition of human mitochondrial peptide deformylase causes apoptosis in c-myc-overexpressing hematopoietic cancers. *Cell Death Dis.* 2014 Mar 27;5:e1152. PMID: 24675470.

Goemaere E, Melet A, Larue V, et al. New peptide deformylase inhibitors and cooperative interaction: a combination to improve antibacterial activity. *J Antimicrob Chemother.* 2012 Jun;67(6):1392-400. PMID: 22378679.

Wang Z, Herzog C, Kaushal GP, et al. Actinonin, a meprin A inhibitor, protects the renal microcirculation during sepsis. *Shock.* 2011 Feb;35(2):141-7. PMID: 20577148.

Sharma A, Sharma S, Khuller GK, et al. In vitro and ex vivo activity of peptide deformylase inhibitors against *Mycobacterium tuberculosis* H37Rv. *Int J Antimicrob Agents.* 2009 Sep;34(3):226-30. PMID: 19505802.

Sina A, Lord-Dufour S, Annabi B. Cell-based evidence for aminopeptidase N/CD13 inhibitor actinonin targeting of MT1-MMP-mediated proMMP-2 activation. *Cancer Lett.* 2009 Jul 8;279(2):171-6. PMID: 19264392.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.