



LKT Laboratories, Inc.

Clodronate Disodium Tetrahydrate

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Product Information

Product ID C3449

CAS No. 88416-50-6

Chemical Name Clodronate disodium salt; Dichloromethylene- biphosphonate disodium tetrahydrate

Synonym Clodronic acid disodium salt, chlodronate sodium, clasteron

Formula $\text{CH}_2\text{Cl}_2\text{Na}_2\text{O}_6\text{P}_2 \cdot 4\text{H}_2\text{O}$

Formula Wt. 360.92

Melting Point

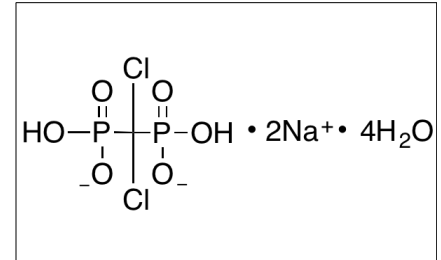
Purity $\geq 98\%$

Solubility Soluble in water to 100 mM

Store Temp Ambient

Ship Temp Ambient

Description Clodronate is a first-generation non-nitrogen-containing bisphosphonate that is used clinically for its anti-resorptive activity. Clodronate generates formation of a non-hydrolysable β - γ ATP analog that inhibits mitochondrial ADP/ATP translocase and prevents mitochondrial oxygen consumption and function; as a result, osteoblast calcium deposition is inhibited and apoptosis is induced in osteoclasts, inhibiting bone resorption. Clodronate also decreases expression of MMP9 and improves performance on the Rotarod test, decreasing severity of experimental autoimmune neuritis, an animal model of Guillan-Barre Syndrome. Additionally, clodronate exhibits anticancer chemotherapeutic and anti-angiogenic activities, decreasing vessel density in vivo and inhibiting cellular proliferation in models of renal cell carcinoma.



Bulk quantities available upon request

Product ID	Size
C3449	10 mg
C3449	50 mg
C3449	100 mg

References Katzav A, Bina H, Aronovich R, et al. Treatment for experimental autoimmune neuritis with clodronate (Bonefos). *Immunol Res.* 2013 Jul;56(2-3):334-40. PMID: 23579773.

Soltau J, Zirrgiebel U, Esser N, et al. Antitumoral and antiangiogenic efficacy of bisphosphonates in vitro and in a murine RENCA model. *Anticancer Res.* 2008 Mar-Apr;28(2A):933-41. PMID: 18507039.

Kellinsalmi M, Mönkkönen H, Mönkkönen J, et al. In vitro comparison of clodronate, pamidronate and zoledronic acid effects on rat osteoclasts and human stem cell-derived osteoblasts. *Basic Clin Pharmacol Toxicol.* 2005 Dec;97(6):382-91. PMID: 16364054.

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