

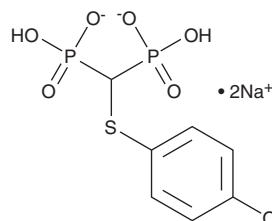
PRODUCT INFORMATION



Tiludronate (sodium salt)

Item No. 44251

CAS Registry No.: 149845-07-8
Formal Name: [[(4-chlorophenyl)thio]methylene]bis-phosphonic acid, disodium salt
Synonym: SR 41319
MF: C₇H₇ClO₆P₂S • 2Na
FW: 362.6
Purity: ≥98%
Supplied as: A 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

Tiludronate (sodium salt) is supplied as a solid. Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of tiludronate (sodium salt) can be prepared by directly dissolving the solid in aqueous buffers. Tiludronate (sodium salt) is slightly soluble (0.1-1 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Tiludronate is a bisphosphonate that inhibits bone resorption.^{1,2} It inhibits pit formation induced by primary mouse osteoclast-like multinucleated cells (OCLs) and decreases primary mouse OCL-induced increases in dentine resorption levels in dentine slices when used at a concentration of 100 μM.¹ Tiludronate (300 μM) inhibits secretion of casein-degrading proteinase, proteoglycan-degrading proteinase, and collagenase induced by colony-stimulating factor (CSF) in primary rabbit synovial cells and chondrocytes.³ It decreases the erythrocyte sedimentation rate (ESR), a marker of inflammation, and hindlimb paw levels of prostaglandin E₂ (PGE₂) in a rat model of *M. tuberculosis*-induced arthritis. Tiludronate also reduces paw redness, swelling, and volume, and increases the latency to fall in the rotarod test in the same model.⁴ Formulations containing tiludronate have been used in the treatment of Paget's disease of bone.

References

1. Murakami, H., Takahashi, N., Sasaki, T., *et al.* A possible mechanism of the specific action of bisphosphonates on osteoclasts: Tiludronate preferentially affects polarized osteoclasts having ruffled borders. *Bone* **17**(2), 137-144 (1995).
2. Bell, N.H. and Johnson, R.H. Bisphosphonates in the treatment of osteoporosis. *Endocrine* **6**(2), 203-206 (1997).
3. Edmonds-Alt, X., Brelière, J.C., and Roncucci, R. Effects of 1-hydroxyethylidene-1,1 bisphosphonate and (chloro-4 phenyl) thiomethylene bisphosphonic acid (SR 41319) on the mononuclear cell factor-mediated release of neutral proteinases by articular chondrocytes and synovial cells. *Biochem. Pharmacol.* **34**(22), 4043-4049 (1985).
4. Barbier, A., Brelière, J.C., Remandet, B., *et al.* Studies on the chronic phase of adjuvant arthritis: Effect of SR 41319, a new diphosphonate. *Ann. Rheum. Dis.* **45**(1), 67-74 (1986).

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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