



LKT Laboratories, Inc.

Zoledronate Disodium Tetrahydrate

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Product Information

Product ID Z5645

CAS No. 165800-07-7

Chemical Name [1-Hydroxy-2-(1H-imidazol-1-yl)ethylidene]- bisphosphonic acid disodium salt tetrahydrate

Synonym Zoledronic acid disodium salt tetrahydrate

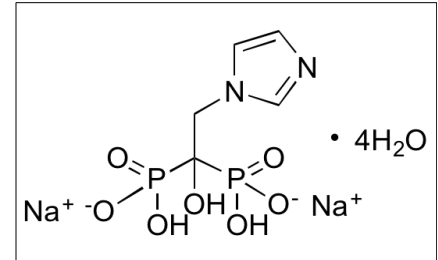
Formula $C_5H_{10}N_2O_7P_2 \cdot 2Na \cdot 4H_2O$

Formula Wt. 390.13

Melting Point 305-307°C

Purity ≥98%

Solubility



Product ID	Size
Z5645	10 mg
Z5645	25 mg
Z5645	100 mg

Store Temp Ambient

Ship Temp Ambient

Description Zoledronate is a sodium salt form of zoledronic acid. Zoledronic acid is a third generation bisphosphonate that exhibits anti-resorptive, anti-osteoporotic, anti-angiogenic, and anticancer chemotherapeutic activities. In giant cell tumor bone stromal cells, zoledronic acid increases expression of Cbfa-1, osteocalcin, and osterix, inducing apoptosis and osteogenic differentiation; it also inhibits bone resorption and prevents osteoporosis in animal models. In animal models of renal cell carcinoma, zoledronic acid decreases mean vessel density. In breast cancer cells, zoledronic acid reverses the epithelial-to-mesenchymal transition (EMT) by inactivating NF-κB, decreasing self-renewal and cell proliferation. In other cellular models, zoledronic acid inhibits farnesyl diphosphate synthase (FPPS), which results in activation of γδ T cells. Across several breast cancer cell lines, zoledronic acid activates caspases 3, 8, and 9 and decreases expression of Ras and MAPK, resulting in the induction of cell cycle arrest or apoptosis.

References Yang T, Zheng XF, Li M, et al. Stimulation of osteogenic differentiation in stromal cells of giant cell tumour of bone by zoledronic acid. *Asian Pac J Cancer Prev.* 2013;14(9):5379-83. PMID: 24175830.

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