

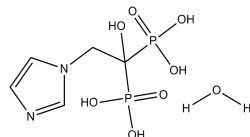
Product: Zoledronic acid hydrate

ALTERNATE NAME: (1-hydroxy-2-(1H-imidazol-1-yl)ethane-1,1-diyl)diphosphonic acid; NDC-zoledronate; zoledronate; Zometa; Reclast ; CGP 42446; CGP42446A; ZOL 446

CATALOG #: 2653-10, 50

AMOUNT: 10 mg, 50 mg

STRUCTURE:



MOLECULAR FORMULA: $C_5H_{12}N_2O_8P_2$

MOLECULAR WEIGHT: 290.10

CAS NUMBER: 165800-06-6

APPEARANCE: Crystalline solid

SOLUBILITY: PBS (~ 1.6 mg/ml)

PURITY: ≥98%

STORAGE: Store at -20 °C. Protect from air and moisture

DESCRIPTION: Zoledronic acid is a third-generation bisphosphonate that inhibits the prenylation of GTPases critical to the signaling events related to osteoclast-mediated bone resorption. It displays high affinity for hydroxyapatite ($K_i = 3.47 \mu M$) and binds directly to mineralized bone where it decreases bone resorption by inhibiting osteoclast proliferation and inducing osteoclast apoptosis. At micromolar concentrations, zoledronic acid demonstrates antitumor effects *in vitro* against breast, prostate, and myeloma cancer cells by inducing cytostasis and prevents bone metastases through its inhibitory effects on adhesion molecules, tumor cell invasion, and angiogenesis. Zoledronic acid has been used in the treatment of osteoporosis, Paget's disease, metastatic bone disease, multiple myeloma, hypercalcemia of malignancy, and skeletal-related events associated with metastatic castrate-resistant prostate cancer.

RELATED PRODUCTS:

Alendronate sodium (Cat. No. 2168-50, 250)

Pamidronate sodium (Cat. No. 1884-50, 250)

HANDLING:

Do not take internally. Wear gloves and mask when handling the product! Avoid contact by all modes of exposure.

FOR RESEARCH USE ONLY! Not to be used on humans.