

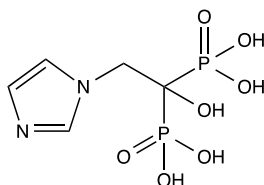
**Catalog # 10-4512**

**Zoledronic acid**

CAS# 118072-93-8

[1-Hydroxy-2-(1H-imidazol-1-yl)ethane-1,1-diy]bis(phosphonic acid); CGP 42446

Lot # FBA4122



Potent inhibitor of bone resorption ( $IC_{50} = 2$  nM in mouse calvarial cultures).<sup>1</sup> The mechanism of its action is thought to be via inhibition of osteoclastic activity, induction of osteoclast apoptosis and blockage of osteoclastic resorption of mineralized bone and cartilage through its binding to bone. Clinically useful drug for treatment of osteoporosis<sup>2</sup>, hypercalcemia of malignancy (HCM), multiple myeloma and bone metastases from solid tumors<sup>3</sup>. It has also been investigated as an antitumor agent and showing efficacy as an adjuvant therapy in several cancers.<sup>4,5</sup>

- 1) Green *et al.* (1994), *Preclinical pharmacology of CGP 42446, a new, potent, heterocyclic bisphosphonate compound* J. Bone Miner. Res. **9** 745
- 2) Deeks and Perry (2008) *Zoledronic acid: a review of its use in the treatment of osteoporosis* Drugs Aging **25** 963
- 3) Perry and Figgitt (2004), *Zoledronic acid: a review of its use in patients with advanced cancer* Drugs **64** 1197
- 4) Koto *et al.* (2010) *Zoledronic acid inhibits proliferation of human fibrosarcoma cells with induction of apoptosis and shows combined effects with other anticancer agents* Oncol. Rep. **24** 233
- 5) Tonyali *et al.* (2010) *The role of zoledronic acid in the adjuvant treatment of breast cancer: current perspectives* Expert Opin. Pharmacother. **11** 2715

**PHYSICAL DATA**

Molecular Weight:	272.09
Molecular Formula:	C <sub>5</sub> H <sub>10</sub> N <sub>2</sub> O <sub>7</sub> P <sub>2</sub>
Purity:	>98% by HPLC
Solubility:	Water (up to 2 mg/ml)
Physical Description:	White to off-white solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in water may be stored at -20°C for up to 2 months.

**Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.**