

Certificate of Analysis

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Product Name: Risedronate

Catalog No.: 3504

Batch No.: 1

CAS Number: 115436-72-1

IUPAC Name: *P,P*-[1-Hydroxy-2-(3-pyridonyl)ethylidene]bis-phosphonic acid sodium salt

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_7H_{10}NNaO_7P_2 \cdot 2\frac{1}{2}H_2O$

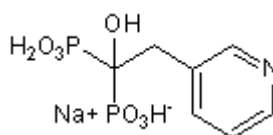
Batch Molecular Weight: 350.13

Physical Appearance: White solid

Solubility: water to 10 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	sodium
Theoretical	24.01	4.32	3.99	6.57
Found	23.98	4.26	4.03	6.55

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Orally active bisphosphonate that inhibits farnesyl diphosphate (FPP) synthase (IC₅₀ = 100 nM). Exhibits antiproliferative and proapoptotic activity in numerous tumor cell lines and inhibits osteoclast-mediated bone resorption *in vivo*.

Physical and Chemical Properties:

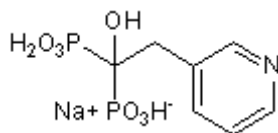
Batch Molecular Formula: C₇H₁₀NNaO₇P₂·2½H₂O

Batch Molecular Weight: 350.13

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Fournier *et al* (2008) Lowering bone mineral affinity of bisphosphonates as a therapeutic strategy to optimize skeletal tumor growth inhibition *in vivo*. *Cancer Res.* **68** 8945. PMID: 18974139.

Stresing *et al* (2007) Bisphosphonates in cancer therapy. *Cancer Letts.* **257** 16. PMID: 17697748.

Coxon *et al* (2006) Recent advances in understanding the mechanism of action of bisphosphonates. *Curr.Opin.Pharmacol.* **6** 307. PMID: 16650801.

Dunford *et al* (2001) Structure-activity relationships for inhibition of farnesyl diphosphate synthase *in vitro* and inhibition of bone resorption *in vivo* by nitrogen-containing bisphosphonates. *J.Pharmacol.Exp.Ther.* **296** 235. PMID: 11160603.

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