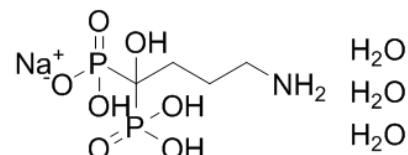


**Product Name** : Alendronate sodium hydrate  
**Cat. No.** : PC-42809  
**CAS No.** : 121268-17-5  
**Molecular Formula** :  $C_4H_{18}NNaO_{10}P_2$   
**Molecular Weight** : 325.1237  
**Target** : Protein Phosphatase/PTP  
**Solubility** : H<sub>2</sub>O: ≥ 28.57 mg/mL; DMSO: < 3.2 mg/mL



## Biological Activity

Alendronate sodium hydrate (Alendronate, MK 217, G-704650 Adronat) is a bisphosphonate that acts as a specific inhibitor of osteoclast-mediated bone resorption, inhibits osteoclast protein-tyrosine phosphatase (**PTPepsilon**) with IC<sub>50</sub> of 2 μM. Alendronate sodium hydrate also inhibits the activities of other bacterially expressed PTPs such as PTPsigma and CD45, suppresses in vitro formation of multinucleated osteoclasts from osteoclast precursors and in vitro bone resorption by isolated rat osteoclasts with IC<sub>50</sub> of 10 μM.

Alendronate sodium hydrate also inhibits **farnesyl disphosphate synthase** with IC<sub>50</sub> of 1.7 μM.

## References

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Opas EE, et al. *Biochem Pharmacol*. 1997 Sep 15;54(6):721-7.

David P, et al. *J Bone Miner Res*. 1996 Oct;11(10):1498-507.

Schmidt A, et al. *Proc Natl Acad Sci U S A*. 1996 Apr 2;93(7):3068-73.

**Caution: Product has not been fully validated for medical applications. Lab Use Only!**

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