Ibandronate Sodium Monohydrate

Cat. No.: HY-B0515

CAS No.: 138926-19-9

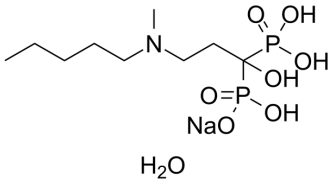
Molecular Formula: $C_9H_{24}NNaO_8P_2$

Molecular Weight: 359.23

Target: Apoptosis

Pathway: Apoptosis

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



H_2O

SOLVENT & SOLUBILITY

In Vitro

H_2O : 25 mg/mL (69.59 mM; Need ultrasonic)
DMSO : < 1 mg/mL (insoluble or slightly soluble)

Preparing Stock Solutions

Concentration / Solvent / Mass	1 mg	5 mg	10 mg
1 mM	2.7837 mL	13.9187 mL	27.8373 mL
5 mM	0.5567 mL	2.7837 mL	5.5675 mL
10 mM	0.2784 mL	1.3919 mL	2.7837 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
Solubility: 25 mg/mL (69.59 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Ibandronate Sodium Monohydrate is a highly potent nitrogen-containing bisphosphonate used for the treatment of osteoporosis.Target: OthersIbandronate (1.25-2 μM) significantly reduces endothelial cell growth, while ibandronate (2 μM) also significantly reduces capillary-like tube formation and increases apoptosis of endothelial cells. Ibandronate (< 100 μM) dose-dependently increases VEGF expression in endothelial cells [1]. Ibandronate (< 100 μM) inhibits growth of both prostate cancer cell lines (LNCaP and PC-3) in a dose dependent manner [2].Ibandronate administered either daily (2.5 mg) or intermittently (20 mg every other day for 12 doses every 3 months) significantly reduces the risk of new morphometric vertebral fractures by 62% and 50% (p = 0.0006), respectively, in osteoporotic women after 3 years' treatment. Ibandronate administered either daily (2.5 mg) or intermittently (20 mg every other day for 12 doses every 3 months) significantly and progressively increases BMD of lumbar spine by 6.5% and 5.7%, respectively, in osteoporotic women after 3 years' treatment [3]. Ibandronate (< 125 mg/kg s.c.) results in a dose dependent increase in bone mineral density (BMD), trabecular bone volume and trabecular number, load to failure (Fmax), and yield load in long bones and vertebrae in ovariectomized rats, and increased trabecular separation in ovariectomized rats is fully prevented by all doses [4].

REFERENCES

[1]. Morgan, C., S. Jeremiah, and J. Wagstaff, Metronomic administration of ibandronate and its anti-angiogenic effects in vitro. Microvasc Res, 2009. 78(3): p. 453-8.

[2]. Epplen, R., et al., Differential effects of ibandronate, docetaxel and farnesol treatment alone and in combination on the growth of prostate cancer cell lines. Acta Oncol, 2011. 50(1): p. 127-33.

[3]. Chesnut, I.C., et al., Effects of oral ibandronate administered daily or intermittently on fracture risk in postmenopausal osteoporosis. J Bone Miner Res, 2004. 19(8): p. 1241-9.

[4]. Bauss, F., et al., Effects of treatment with ibandronate on bone mass, architecture, biomechanical properties, and bone concentration of ibandronate in ovariectomized aged rats. J Rheumatol, 2002. 29(10): p. 2200-8.

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