

Disodium monofluorophosphate

Chemical Properties

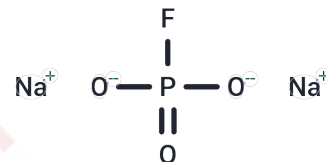
CAS No. : 10163-15-2

Formula: FNa₂O₃P

Molecular Weight: 143.95

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Disodium monofluorophosphate (NSC248) is a competitive inhibitor of pyruvate kinase and alkaline phosphatase, which also irreversibly inhibits phosphorylase phosphatase.
Targets(IC50)	Phosphatase,Phosphorylase,PKM
In vitro	Monofluorophosphate showed potent activity against bone immobilization in vivo. Drinking water containing 50 ppm Monofluorophosphate showed a significant increase in bone disease in mobile and immobile tibia (1.48 and 0.98 mM, respectively, and 0.79 and 0.40 mM, respectively) as compared to the fluoride-free water group. Monofluorophosphate increased the rate of bone mineralization and counteracted immobilization-induced decreases in bone thickness, ash content, and specific gravity without altering the Ca/P ratio of ash.Monofluorophosphate had no effect on the specific gravity of immobilized and immobilized tibiae in rats.
In vivo	Monofluorophosphate showed potent activity against bone immobilization in vivo. Drinking water containing 50 ppm Monofluorophosphate showed a significant increase in bone disease in mobile and immobile tibia (1.48 and 0.98 mM, respectively, and 0.79 and 0.40 mM, respectively) as compared to the fluoride-free water group. Monofluorophosphate increased the rate of bone mineralization and counteracted immobilization-induced decreases in bone thickness, ash content, and specific gravity without altering the Ca/P ratio of ash.Monofluorophosphate had no effect on the specific gravity of immobilized and immobilized tibiae in rats.

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.9469 mL	34.7343 mL	69.4686 mL
5 mM	1.3894 mL	6.9469 mL	13.8937 mL
10 mM	0.6947 mL	3.4734 mL	6.9469 mL
50 mM	0.1389 mL	0.6947 mL	1.3894 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Pearce EI. Caries Res, 1983, Suppl 1, 21-35.

Farley JR, et al. Calcif Tissue Int, 1987, 40(1), 35-42.

Gedalia I, et al. Calcif Tissue Res, 1970, 5(2), 146-152.

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