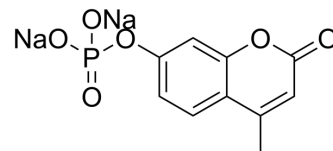


4-Methylumbelliferyl phosphate disodium

Cat. No.:	HY-D0994A
CAS No.:	22919-26-2
Molecular Formula:	C ₁₀ H ₇ Na ₂ O ₆ P
Molecular Weight:	300.11
Target:	Phosphatase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	4-Methylumbelliferyl phosphate (4-MUP) disodium, an anionic organophosphate, is a acid and alkaline phosphatase fluorogenic substrate. 4-Methylumbelliferyl phosphate disodium is also a nerve agent simulant ^{[1][2][3]} .
In Vitro	<p>Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).</p> <p>Serum acid phosphatase assay^[1]:</p> <ol style="list-style-type: none"> 1. Preparation a 100 μL solution containing the following agents: 5.0 μL of serum enzyme, 50 μL of 4-Methylumbelliferyl phosphate (5.0 mM), and 10 μL of 1.0 M buffer at pH 6.0. 2. Add the following agents (with the final concentration) 20 mM Sodium Tartrate (HY-128476), 15 mM Sodium Fluoride (HY-B1766), 3000 mM 2-Mercaptoethanol, 4 mM 1, 10-Phenanthroline (HY-W004544), 6 mM 8-Quinolinol (HY-B1005), 6 mM 8-Hydroxy-5quinolinesulfonic acid, 45 mM EDTA (HY-Y0682) and 6 mM EGTA (HY-D0861). 3. Incubate reaction mixtures for 15 min at 37\square and terminated by the addition of 2.9 mL of 0.1 M ammonium hydroxide/glycine buffer, pH 10.5. 4. Mix samples thoroughly and determine fluorescence by a fluorometer. <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Chambers JP, et al. Determination of serum acid phosphatase in Gaucher's disease using 4-methylumbelliferyl phosphate. Clin Chim Acta. 1977 Oct 1;80(1):67-77.
- [2]. Watanabe F, et al. The analysis of alkaline phosphatase isoenzyme using 4-methylumbelliferyl phosphate as substrate on a cellulose acetate membrane. Clin Chim Acta. 1979 Feb 1;91(3):273-6.
- [3]. Hao Chen, et al. Autonomic Molecular Transport for Ultrasensitive Surface-Enhanced Infrared Absorption Spectroscopy. ACS Appl. Polym. Mater. 2020, 2, 9, 3929-3935

Caution: Product has not been fully validated for medical applications. For research use only.

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