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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

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- Trockeneiszuschlag
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4-Methylumbelliferyl phosphate

Cat. No.: HY-D0994

CAS No.: 3368-04-5

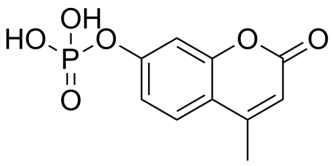
Molecular Formula: $C_{10}H_9O_6P$

Molecular Weight: 256.15

Target: Phosphatase

Pathway: Metabolic Enzyme/Protease

Storage: -20°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : 20.83 mg/mL (81.32 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9040 mL	19.5198 mL	39.0396 mL
	5 mM	0.7808 mL	3.9040 mL	7.8079 mL
	10 mM	0.3904 mL	1.9520 mL	3.9040 mL

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

In Vivo

1. Add each solvent one by one: PBS
Solubility: 10 mg/mL (39.04 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

4-Methylumbelliferyl phosphate (4-MUP), an anionic organophosphate, is a acid and alkaline phosphatase fluorogenic substrate. 4-Methylumbelliferyl phosphate is also a nerve agent simulant[1][2][3].

In Vitro

Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).
Serum acid phosphatase assay[1]:
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℃ 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.

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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

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