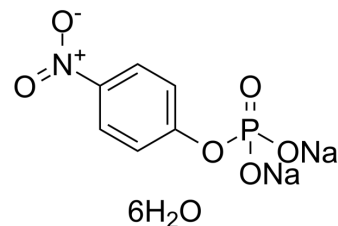


4-Nitrophenyl phosphate disodium hexahydrate

| | |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Cat. No.: | HY-116022A |
| CAS No.: | 333338-18-4 |
| Molecular Formula: | C ₆ H ₆ NOP.6H ₂ O.2Na |
| Molecular Weight: | 371.14 |
| Target: | Biochemical Assay Reagents |
| Pathway: | Others |
| Storage: | -20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



SOLVENT & SOLUBILITY

In Vitro

H₂O : 100 mg/mL (269.44 mM; Need ultrasonic)
DMSO : 10 mg/mL (26.94 mM; ultrasonic and warming and heat to 80°C)

| Preparing Stock Solutions | Solvent Concentration | Mass | 1 mg | 5 mg | 10 mg |
|---------------------------|-----------------------|---------------|-----------|------------|------------|
| | | Concentration | 1 mg | 5 mg | 10 mg |
| | 1 mM | | 2.6944 mL | 13.4720 mL | 26.9440 mL |
| | 5 mM | | 0.5389 mL | 2.6944 mL | 5.3888 mL |
| | 10 mM | | 0.2694 mL | 1.3472 mL | 2.6944 mL |

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

BIOLOGICAL ACTIVITY

Description

4-Nitrophenyl phosphate (p-nitrophenyl phosphate) disodium hexahydrate is widely used as a small molecule phosphotyrosine-like substrate in activity assays for protein tyrosine phosphatases. 4-Nitrophenyl phosphate disodium hexahydrate is a colorless substrate that upon hydrolysis is converted to a yellow 4-nitrophenolate ion that can be monitored by absorbance at 405 nm^[1].

In Vitro

4-Nitrophenyl phosphate (PNPP) disodium hexahydrate is a commonly used substrate for alkaline phosphatases (ALPs). 4-Nitrophenyl phosphate disodium hexahydrate is hydrolyzed by ALP to PNP (p-nitrophenol), which quenches the fluorescence of novel gold nanoclusters (AuNCs) by the inner filter effect (IFE)^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int J Mol Sci. 2022 Feb 26;23(5):2604.

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- J Chromatogr A. 2023 Nov 17, 464511.

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REFERENCES

- [1]. Lountos GT, et al. Structural analysis of human dual-specificity phosphatase 22 complexed with a phosphotyrosine-like substrate. Acta Crystallogr F Struct Biol Commun. 2015;71(Pt 2):199-205.
- [2]. Qi S, et al. Development of a facile and sensitive method for detecting alkaline phosphatase activity in serum with fluorescent gold nanoclusters based on the inner filter effect. Analyst. 2020;145(11):3871-3877.
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Caution: Product has not been fully validated for medical applications. For research use only.

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