

PRODUCT INFORMATION



PPHP

Item No. 75750

CAS Registry No.: 87864-20-8

Formal Name: 5-phenyl-4E-pentenyl-1-hydroperoxide

Synonym: *trans*-5-phenyl-4-pentenyl-hydroperoxide

MF: C₁₁H₁₄O₂

FW: 178.2

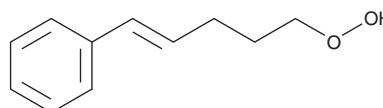
Purity: ≥98%

UV/Vis.: λ_{max}: 250 nm

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

PPHP is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO or dimethyl formamide purged with an inert gas can be used. The solubility of PPHP in these solvents is approximately 7 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of PPHP is needed, the ethanol can be evaporated under a stream of nitrogen and the neat oil dissolved in the buffer of choice. PPHP is soluble in PBS (pH 7.2) at a concentration of at least 500 µg/ml. Store the aqueous solutions of PPHP on ice and use within 12 hours. We do not recommend storing the aqueous solution for more than one day.

Description

PPHP is a hydroperoxide compound used to assay for peroxidase activity. PPHP is reduced to 5-phenyl-4-pentenyl alcohol (PPA) by plant and animal peroxidases in the presence of reducing substrates.¹⁻³ This reduction can be followed spectrophotometrically to detect the presence of peroxide-reducing enzymes and determine the kinetics of heme- and non-heme-containing peroxidases.^{3,4}

References

1. Odenwaller, R., Maddipati, K.R., Marnett, L.J. Detection of a higher oxidation state of manganese-prostaglandin endoperoxide synthase. *J. Biol. Chem.* **267**, 13863-13869 (1992).
2. DeGray, J.A., Lassmann, G., Curtis, J.F., *et al.* Spectral analysis of the protein-derived tyrosyl radicals from prostaglandin H synthase. *J. Biol. Chem.* **267**, 23583-23588 (1992).
3. Hsuanyu, Y. and Dunford, H.B. Prostaglandin H synthase kinetics. The effect of substituted phenols on cyclooxygenase activity and the substituent effect on phenolic peroxidatic activity. *J. Biol. Chem.* **267**, 17649-17657 (1992).
4. Weller, P.E., Markey, C.M., Marnett, L.J. Enzymatic reduction of 5-phenyl-4-pentenyl-hydroperoxide: Detection of peroxidases and identification of peroxidase reducing substrates. *Arch. Biochem. Biophys.* **243**, 633-643 (1985).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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