

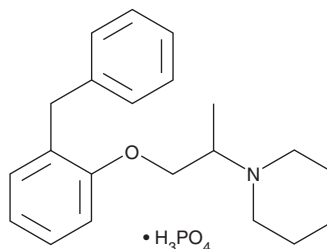
PRODUCT INFORMATION



Benproperine (phosphate)

Item No. 35776

CAS Registry No.: 19428-14-9
Formal Name: 1-[1-methyl-2-[2-(phenylmethyl)phenoxy]ethyl]-piperidine, monophosphate
Synonyms: ASA 158-5, BPP
MF: C₂₁H₂₇NO • H₃PO₄
FW: 407.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Benproperine (phosphate) is supplied as a solid. A stock solution may be made by dissolving the benproperine (phosphate) in the solvent of choice, which should be purged with an inert gas. Benproperine (phosphate) is soluble in the organic solvent dimethyl formamide at a concentration of approximately 1 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. Organic solvent-free aqueous solutions of benproperine (phosphate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of benproperine (phosphate) in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Benproperine is an antitussive agent and actin-related protein 2/3 complex subunit 2 (ARPC2) inhibitor.^{1,2} It increases the latency to first cough and decreases the number of coughs during and after a citric acid aerosol challenge in a guinea pig model of cough when administered at a dose of 27 mg/kg.¹ It binds to ARPC2 and delays the initiation of actin polymerization in the presence of actin, the Arp2/3 complex, and the Wiskott-Aldrich syndrome protein (WASP) VCA domain, but not actin alone, when used at a concentration of 10 μM.² Benproperine (1-10 μM) inhibits the migration and invasion of DLD-1 and AsPC-1 cancer cells and reduces lung metastasis in an AsPC-1 mouse model of metastasis when administered at a dose of 50 mg/kg. Formulations containing benproperine have been used as cough suppressants.

References

1. Li, Y., Zhong, D.F., Chen, S.W.C., *et al.* Identification of some benproperine metabolites in humans and investigation of their antitussive effect. *Acta Pharmacol. Sin.* **26**(12), 1519-1526 (2005).
2. Yoon, Y.J., Han, Y.-M., Choi, J., *et al.* Benproperine, an ARPC2 inhibitor, suppresses cancer cell migration and tumor metastasis. *Biochem. Pharmacol.* **163**, 46-59 (2019).

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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