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Diagnostik & molekulare Diagnostik



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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

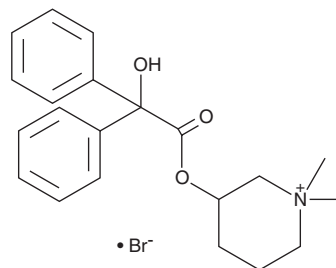
PRODUCT INFORMATION



Mepenzolate (bromide)

Item No. 23717

CAS Registry No.: 76-90-4
Formal Name: 3-[(2-hydroxy-2,2-diphenylacetyl)oxy]-1,1-dimethyl-piperidinium, monobromide
Synonym: NSC 4358
MF: C₂₁H₂₆NO₃ • Br
FW: 420.3
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Mepenzolate (bromide) is supplied as a solid. A stock solution may be made by dissolving the mepenzolate (bromide) in the solvent of choice. Mepenzolate (bromide) is slightly soluble in the organic solvent DMSO, which should be purged with an inert gas. It is also slightly soluble in water. We do not recommend storing the aqueous solution for more than one day.

Description

Mepenzolate is an antagonist of muscarinic (M) acetylcholine receptors (K_s = 0.68 and 2.6 nM for human M₂ and M₃ receptors, respectively).¹ It has antispasmodic activity in the gastrointestinal tract of anesthetized cats and dogs when administered at a dose of 0.5 mg/kg.² Mepenzolate decreases airspace enlargement induced by elastase or cigarette smoke and reduces respiratory dysfunction in a mouse model of chronic obstructive pulmonary disease (COPD).³ It also reduces oxidative stress, decreases the expression of IL-1β, IL-6, and TNF-α, and increases the expression of TGF-β1, IGF-1, and VEGF in a diabetic wound healing mouse model.⁴

References

1. Yamashita, Y., Tanaka, K.-I., Asano, T., *et al.* Synthesis and biological comparison of enantiomers of mepenzolate bromide, a muscarinic receptor antagonist with bronchodilatory and anti-inflammatory activities. *Bioorg. Med. Chem.* **22(13)**, 3488-3497 (2014).
2. Buckley, J.P., DeFeo, J.J., and Reif, E.C. The comparative antispasmodic activity of N-methyl-3-piperidyl diphenylglycolate methobromide (JB-340) and atropine sulfate. *J. Am. Pharm. Assoc.* **46(10)**, 592-594 (1957).
3. Tanaka, K.-I., Ishihara, T., Sugizaki, T., *et al.* Mepenzolate bromide displays beneficial effects in a mouse model of chronic obstructive pulmonary disease. *Nat. Commun.* **4:2686**, (2013).
4. Zheng, Y., Wang, X., Ji, S., *et al.* Mepenzolate bromide promotes diabetic wound healing by modulating inflammation and oxidative stress. *Am. J. Transl. Res.* **8(6)**, 2738-2747 (2016).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM