

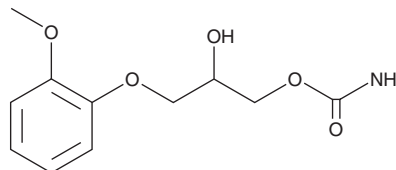
PRODUCT INFORMATION



Methocarbamol

Item No. 23870

CAS Registry No.: 532-03-6
Formal Name: 3-(2-methoxyphenoxy)-1,2-propanediol, 1-carbamate
Synonyms: AHR 85, Guaicol Glyceryl Ether Carbamate, Guaiphenesin Carbamate, NSC 170960
MF: C₁₁H₁₅NO₅
FW: 241.2
Purity: ≥98%
UV/Vis.: λ_{max}: 230, 273 nm
Supplied as: A crystalline solid
Storage: 4°C
Stability: ≥4 years



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

Laboratory Procedures

Methocarbamol is supplied as a crystalline solid. A stock solution may be made by dissolving the methocarbamol in the solvent of choice. Methocarbamol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of methocarbamol in these solvents is approximately 14, 16, and 33 mg/ml, respectively.

Methocarbamol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, methocarbamol should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Methocarbamol has a solubility of approximately 0.03 mg/ml in a 1:30 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Methocarbamol is an orally bioavailable skeletal muscle relaxant.¹ *In vivo*, methocarbamol inhibits the ability of mice to remain on a vertical ladder for 1 minute (ED₅₀ = 15 mg/kg) and decreases forelimb grip strength by 35.9% when administered at a dose of 500 mg/kg.^{1,2} It abolishes femoral nerve-stimulated polysynaptic reflex contractions of the cat tibialis anterior muscle and prolongs the mean refractory period of directly or indirectly stimulated skeletal muscle when administered at a dose of 200 mg/kg.³ Methocarbamol also selectively inhibits human carbonic anhydrase (CA) isoform I over CAII (IC₅₀s = 70 and ~80,000 μM, respectively).⁴ Formulations containing methocarbamol have been used to treat skeletal muscle spasms.

References

1. Cymbalist, M.A. and Shapero, M. A comparative study of the effect of some centrally acting skeletal muscle relaxants in mice. *J. Pharm. Pharmacol.* **26(2)**, 109-112 (1974).
2. Nevins, M.E., Nash, S.A., and Beardsley, P.M. Quantitative grip strength assessment as a means of evaluating muscle relaxation in mice. *Psychopharmacology (Berl)* **110(1-2)**, 92-86 (1993).
3. Crankshaw, D.P. and Raper, C. Some studies on peripheral actions of mephenesin, methocarbamol and diazepam. *Br. J. Pharmacol.* **34(3)**, 579-590 (1968).
4. Parr, J.S. and Khalifah, R.G. Inhibition of carbonic anhydrases I and II by N-unsubstituted carbamate esters. *J. Biol. Chem.* **267(35)**, 25044-25050 (1992).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/19/2022

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