

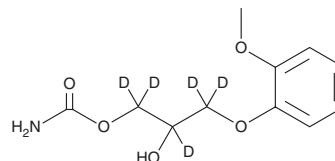
PRODUCT INFORMATION



Methocarbamol-d₅

Item No. 33464

CAS Registry No.: 1189699-70-4
Formal Name: 3-(2-methoxyphenoxy)-1,2-propane-1,1,2,3,3-d₅-diol, 1-carbamate
Synonyms: AHR 85-d₅, Guaicol Glyceryl Ether Carbamate-d₅, Guaiphenesin Carbamate-d₅
MF: C₁₁H₁₀D₅NO₅
FW: 246.3
Chemical Purity: ≥95% (Methocarbamol)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀
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

Methocarbamol-d₅ is intended for use as an internal standard for the quantification of methocarbamol (Item No. 23870) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Methocarbamol-d₅ is supplied as a solid. A stock solution may be made by dissolving the methocarbamol-d₅ in the solvent of choice, which should be purged with an inert gas. Methocarbamol-d₅ is soluble in methanol, DMSO, and dimethyl formamide.

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.

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