Product Data Sheet

Product Name: Methocarbamol D5
Cat. No.: GC61046

Chemical Properties

Cas. No.	1189699-70-4		
SMILES	OC(C([2H])([2H])OC1=CC=CC=C1OC)([2H])C([2H])([2H])OC(N)=O		
Formula	$C_{11}H_{10}D_5NO_5$	M.Wt	246.27
Solubility	DMF: soluble,DMSO: soluble,Methanol: soluble	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Methocarbamol D5		

Background

Methocarbamol-d_5 is intended for use as an internal standard for the quantification of methocarbamol by GC- or LC-MS. 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 (ED_{50} = 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 (IC_{50}s = 70 and ~80,000 µM, respectively).[4] Formulations containing methocarbamol have been used to treat skeletal muscle spasms.

1.Cymbalist, M.A., and Shapero, M.A comparative study of the effect of some centrally acting skeletal muscle relaxants in miceJ. Pharm. Pharmacol.26(2)109-112(1974)
2.Nevins, M.E., Nash, S.A., and Beardsley, P.M.Quantitative grip strength assessment as

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a means of evaluating muscle relaxation in micePsychopharmacology (Berl)110(1-2)92-86(1993) 3.Crankshaw, D.P., and Raper, C.Some studies on peripheral actions of mephenesin, methocarbamol and diazepamBr. 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 estersJ. Biol. Chem.267(35)25044-25050(1992)

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