

Product Data Sheet

Product Name: Felbamate-d4

Cat. No.: GC47332

Chemical Properties

Cas. No. 106817-52-1

SMILES NC(OC([2H])([2H])C(C([2H])([2H])OC(N)=O)C1=CC=CC=C1)=O

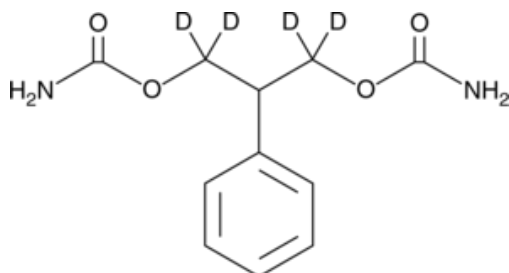
Formula C₁₁H₁₀D₄N₂O₄ M.Wt 242.3

Solubility DMF: 50 mg/ml, DMF:PBS (pH 7.2) (1:1): 0.5 mg/ml, DMSO: 30 mg/ml, Ethanol: 1 mg/ml
Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C 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



Background

Felbamate-d₄ is intended for use as an internal standard for the quantification of felbamate by GC- or LC-MS. Felbamate is an inhibitor of NMDA receptors and a modulator of GABA_A receptors that also has broad-spectrum inhibitory activity against excitatory amino acid receptors.^{1,2,3} It binds to NMDA channels with dissociation constants of approximately 200, 110, and 55 μM in the resting, activated, and desensitized states, respectively, and inhibits NMDA currents in a use-dependent manner.¹ Felbamate is a positive modulator of α₁β₂γ₂S, α₁β₃γ₂S, α₂β₂γ₂S, and α₂β₃γ₂S subunit-containing GABA_A receptors expressed in *X. laevis* oocytes, with negative modulation of GABA_A receptors containing the subunits α₁β₁, α₁β₃γ₂L, α₄β₁γ₂S, α₄β₃γ₂S, and α₆β₁γ₂S.² It inhibits seizures

Caution: Product has not been fully validated for medical applications. For research use only.

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induced by maximal electroshock, pentylenetetrazole, and picrotoxin in mice (ED_{50} s = 16.3, 5.51, and 5.23 mg/kg, respectively). Formulations containing felbamate have been used in the treatment of severe refractory seizures.

1.Kuo, C.-C., Lin, B.-J., Chang, H.-R., et al.Use-dependent inhibition of the N-methyl-D-aspartate currents by felbamate: a gating modifier with selective binding to the desensitized channelsMol. Pharmacol.65(2)370-380(2004) 2.Simeone, T.A., Otto, J.F., Wilcox, K.S., et al.Felbamate is a subunit selective modulator of recombinant γ -aminobutyric acid type A receptors expressed in *Xenopus* oocytesEur. J. Pharmacol.552(1-3)31-35(2006) 3.Domenici, M.R., Sagratella, S., Ongini, E., et al.Felbamate displays in vitro antiepileptic effects as a broad spectrum excitatory amino acid receptor antagonistEur. J. Pharmacol.271(2-3)259-263(1994)

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