Product Data Sheet

Product Name: Felbamate hydrate
Cat. No.: GC15363

Chemical Properties

Cas. No.	1177501-39-1		
Chemical Name	2-phenylpropane-1,3-diyl bis(hydrogen carbonimidate) hydrate		
SMILES	N=C(OCC(C1=CC=CC=C1)COC(O)=N)O.O		
Formula	$C_{11}H_{16}N_2O_5$	M.Wt	256.26
Solubility	Soluble in DMSO	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	Felbamate hydrate		

Background

Felbamate (hydrate) (W-554 (hydrate)) is a potent nonsedative anticonvulsant whose clinical effect may be related to the inhibition of N-methyl-D-aspartate (NMDA) .

Felbamate (W-554) is an anti-epileptic drug used in the treatment of epilepsy. It is used to treat partial seizures (with and without generalization) in adults and partial and generalized seizures associated with Lennox-Gastaut syndrome in children. However, an increased risk of potentially fatal aplastic anemia and/or liver failure limit the drugs usage to severe refractory epilepsy[1]. Felbamate (W-554) has been proposed to a unique dual mechanism of action as a positive modulator of GABAA receptors and as a blocker of NMDA receptors, particularly isoforms containing the NR2B subunit. Although it is clear that felbamate does cause pharmacological inhibition of NMDA receptor of relevance of NMDA receptor blockade as a strategy for the treatment of human epilepsy has been questioned. Therefore, the importance of the effects of felbamate on NMDA receptors to its therapeutic action in epilepsy is uncertain[2].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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References:
[1]. Kuo CC, et al. Use-dependent inhibition of the N-methyl-D-aspartate currents by felbamate: a gating modifier with selective binding to the desensitized channels. Mol Pharmacol. 2004 Feb;65(2):370-80.
[2]. Harty TP, et al. Felbamate block of recombinant N-methyl-D-aspartate receptors: selectivity for the NR2B subunit. Epilepsy Res. 2000 Mar;39(1):47-55.

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