Product Data Sheet

Product Name: Flupirtine
Cat. No.: GC36060

Chemical Properties

Cas. No.	56995-20-1		
SMILES	O=C(NC1=CC=C(N=C1N)NCC2=CC=C(C=C2)F)OCC		
Formula	$C_{15}H_{17}FN_4O_2$	M.Wt	304.32
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	Flupirtine		

Background

Flupirtine is an activator of voltage-gated potassium channel 7 (K_V7/KCNQ).[1,2,3] It induces relaxation of preconstricted pulmonary arteries isolated from wild-type and serotonin transporter-overexpressing ($SERT^+$) mice.[2] Flupirtine (30 mg/kg per day) decreases mean right ventricular pressure and right ventricular hypertrophy in hypoxia-induced and $SERT^+$ mouse models of pulmonary arterial hypertension. It increases the paw withdrawal threshold in a rat model of streptozotocin-induced diabetic neuropathy when administered at a dose of 10 mg/kg and increases paw withdrawal latency in a rat model of carrageenan-induced paw inflammation when used in combination with morphine.[3] Flupirtine also indirectly antagonizes NMDA receptors *via* its effects on potassium channels.[1,4]

1.Devulder, J.Flupirtine in pain management: Pharmacological properties and clinical useCNS Drugs25(10)867-881(2010) 2.Morecroft, I., Murray, A., Nilsen, M., et al.Treatment with the Kv7 potassium channel activator flupirtine is beneficial in two independent mouse models of pulmonary hypertensionBr. J. Pharmacol.157(7)1241-

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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1249(2009) 3.Goodchild, C.S., Kolosov, A., Tucker, A.P., et al.Combination therapy with flupirtine and opioid: Studies in rat pain modelsPain Med.9(7)928-938(2008) 4.Kornhuber, J., Bleich, S., Wiltfang, J., et al.Flupirtine shows functional NMDA receptor antagonism by enhancing Mg2+ block via activation of voltage independent potassium channelsJ. Neural Transm. (Vienna)106(9-10)857-867(1999)

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