Product Data Sheet

Product Name: KU14R
Cat. No.: GC10626

Chemical Properties

Cas. No.	189224-48-4		
Chemical Name	2-(2-ethyl-2,3-dihydrobenzofuran-2-yl)-1H-imidazole		
SMILES	CCC1(C2=NC=CN2)CC3=CC=CC=C3O1		
Formula	$C_{13}H_{14}N_2O$	M.Wt	214.26
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	KU14R		

Background

KU14R is a new I(3)-R antagonist, which selectively blocks the insulin secretory response to imidazolines.IC50 Value:Target: Insulin ReceptorA new I(3)-R antagonist, KU14R (2 (2-ethyl 2,3-dihydro-2-benzofuranyl)-2-imidazole), which selectively blocks the insulin secretory response to imidazolines. KU14R partially attenuated responses to Imidazole-4-acetic acid-ribotide (IAA-RP). The effects of KU14R on stimulus secretion-coupling in normal mouse islets and beta cells was compared by measuring KATP channel activity, plasma membrane potential, cytosolic calcium concentration ([Ca2+]c) and dynamic insulin secretion. In the presence of 10 mmol/l but not of 5 mmol/l glucose, KU14R (30, 100 or 300 micromol/l) was ineffective. KATP channel was blocked by KU14R (IC50 31.9 micromol/l, Hill slope -1.5). KU14R does not act as an antagonist of either efaroxan or S22068 at an imidazoline site in vivo.

References:
[1]. Bozdagi O, Wang XB, Martinelli GP, et al. Imidazoleacetic acid-ribotide induces

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depression of synaptic responses in hippocampus through activation of imidazoline receptors. J Neurophysiol. 2011,105(3):1266-75.
[2]. Bleck C, Wienbergen A, Rustenbeck I. Essential role of the imidazoline moiety in the insulinotropic effect but not the KATP channel-blocking effect of imidazolines; a comparison of the effects of efaroxan and its imidazole analogue, KU14R. Diabetologia. 2005 Dec;48(12):2567-75.
[3]. Cooper EJ, Hudson AL, Parker CA, et al. Effects of the beta-carbolines, harmane and pinoline, on insulin secretion from isolated human islets of Langerhans. Eur J Pharmacol. 2003;482(1-3):189-96.
[4]. Mayer G, Taberner PV. Effects of the imidazoline ligands efaroxan and KU14R on blood glucose homeostasis in the mouse. Eur J Pharmacol. 2002;454(1):95-102.
[5]. Susan L.F Chana, Anna L Palletta, John Clewsb. Evidence that the ability of imidazoline compounds to stimulate insulin secretion is not due to interaction with σ receptors. European Journal of Pharmacology. 1997,323(2-3): 241-244.

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