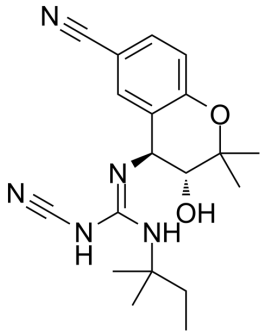
U89232

Cat. No.:	HY-U00173
CAS No.:	134017-78-0
Molecular Formula:	$C_{19}H_{25}N_5O_2$
Molecular Weight:	355.43
Target:	Potassium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	U-89232 appears to be a cardioselective K_{ATP} channel opener.
IC_{50} & Target	K_{ATP} channel[1]
In Vivo	U-89232, a derivative of the ATP-sensitive potassium (K_{ATP}) channel opener Cromakalim. Experiments are performed in open-chest pigs subjected to a 60-min occlusion of the left anterior descending coronary artery (LADCA) and to 2 h of reperfusion. Four groups of animals are studied (n=6 each). Animals receive either U-89232, 3 mg/kg i.v. over a 15-min period (U), or Glibenclamide, a selective KATP channel blocker, 1 mg/kg i.v. over a 15-min period (GLI) before the LADCA occlusion. In the GLI+U group, first Glibenclamide (1 mg/kg/15 min) and then U-89232 (3 mg/kg/15 min) are infused before the 60 min of ischemia. Saline-treated animals serve as controls (CON). Hemodynamic parameters are continuously monitored. Regional contractile wall function is quantified with ultrasonic crystals aligned to measure wall thickening. At the end of the protocol, infarct size (IS, as percentage of risk region) is determined by incubating the myocardium with p-nitrobluetetrazolium. With comparable myocardium at risk, infusion of U-89232 before 60 min of LADCA occlusion significantly reduces infarct size (IS, 18.5±3.7%; p<0.001 vs. 63.2±3.3% for the controls), whereas glibenclamide has no effect on infarct size (IS, 69.5±4.4%). The administration of glibenclamide before U-89232 infusion blocks the infarct size-reducing effect of U-89232. At least in a pig model, U-89232 appears to be a cardioselective K^{ATP} channel opener, because in the absence of hemodynamic alterations, it exhibits a profound cardioprotective effect, which is fully reversible by blocking K_{ATP} channels[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Rohmann S, et al. In swine myocardium, the infarct size reduction induced by U-89232 is glibenclamide sensitive: evidence that U-89232 is a cardioselective opener of ATP-sensitive potassium channels. J Cardiovasc Pharmacol. 1997 Jan;29(1):69-74.

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

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