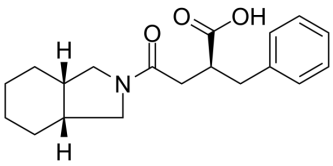
Mitiglinide

Cat. No.:	HY-B0682
CAS No.:	145375-43-5
Molecular Formula:	$C_{19}H_{25}NO_3$
Molecular Weight:	315.41
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	Mitiglinide (KAD-1229), an insulinotropic agent, is an ATP-sensitive K^+ (K_{ATP}) channel antagonist. Mitiglinide is highly specific to the Kir6.2/SUR1 complex (the pancreatic beta-cell K_{ATP} channel). Mitiglinide can be used for the research of type 2 diabetes[1][2].
IC_{50} & Target	K_{ATP} channel[1]
In Vitro	Mitiglinide inhibits the Kir6.2/SUR1 channel currents in a dose-dependent manner (IC_{50} of 100 nM) but does not significantly inhibit either Kir6.2/SUR2A or Kir6.2/SUR2B channel currents even at high doses (more than 10 μM) in COS-1 cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Mitiglinide (1-3 mg/kg; p.o.) suppresses the increase in plasma glucose levels seen after a meal load and the area under the curve for plasma glucose levels (AUCglucose) up to 5 h after the meal load[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Pregnant Wistar rats (12 weeks)[2]
Dosage:	0.3 mg/kg, 1 mg/kg, 3 mg/kg
Administration:	Oral administration
Result:	Dose-dependently suppressed $AUC_{glucose}$ levels.

REFERENCES

[1]. Y Sunaga, et al. The effects of mitiglinide (KAD-1229), a new anti-diabetic drug, on ATP-sensitive K+ channels and insulin secretion: comparison with the sulfonylureas and nateglinide. Eur J Pharmacol. 2001 Nov 9;431(1):119-25.

[2]. Kiyoshi Ichikawa, et al. Effect of KAD-1229, a novel hypoglycaemic agent, on plasma glucose levels after meal load in type 2 diabetic rats. Clin Exp Pharmacol Physiol. May-Jun 2002;29(5-6):423-7.

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

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