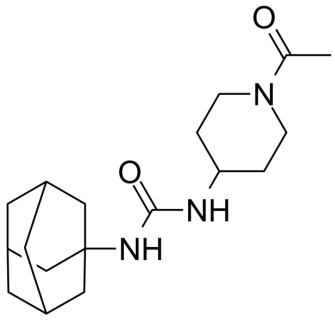
AR-9281

Cat. No.:	HY-111151
CAS No.:	913548-29-5
Molecular Formula:	$C_{18}H_{29}N_3O_2$
Molecular Weight:	319.44
Target:	Epoxide Hydrolase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (78.26 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.1305 mL	15.6524 mL	31.3048 mL
5 mM	0.6261 mL	3.1305 mL	6.2610 mL
10 mM	0.3130 mL	1.5652 mL	3.1305 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (6.51 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.51 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.51 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AR9281 (APAU) is a potent, selective and orally active soluble epoxide hydrolase (s-EH) inhibitor. AR-9281 can inhibits human sEH (HsEH) and murine sEH (MsEH) with IC_{50} values of 13.8 nM and 1.7 nM, respectively. AR9281 can be used for the research of inflammation, hypertension and type 2 diabetes[1][2].

IC_{50} & Target

IC50: 13.8 nM (HsEH); 1.7 nM (MsEH)[1]

In Vitro

AR-9281 (APAU) has inhibitory activity for human sEH (HsEH) and murine sEH (MsEH) with IC_{50} values of 13.8 nM and 1.7 nM,

	respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	AR-9281 (APAU) (oral, 150-200 mg/dL, for 6 weeks) enhances the therapeutic effects of EETs, slows progression of hyperglycemia, protects the myocyte structure, and reduces Ca^{2+} dysregulation and SERCA remodeling in hyperglycemic rats[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	T2DM rat model[2]
Dosage:	150-200 mg/dL
Administration:	oral(drinking), for 6 weeks
Result:	Attenuated the progressive increase of blood glucose concentration and preserved mitochondrial structure and myofibril morphology in cardiac myocytes. Protected the intracellular Ca^{2+} effector system. Had less downregulation of sarco(endo)plasmic reticulum Ca^{2+} ATPase (SERCA) and lowed expression of hypertrophic markers.

REFERENCES

[1]. Fangyu Du, et al. Discovery of memantyl urea derivatives as potent soluble epoxide hydrolase inhibitors against lipopolysaccharide-induced sepsis. Eur J Med Chem. 2021 Nov 5;223:113678.

[2]. Kathleen Guglielmino, et al. Pharmacological inhibition of soluble epoxide hydrolase provides cardioprotection in hyperglycemic rats. Am J Physiol Heart Circ Physiol. 2012 Oct 1;303(7):H853-62.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA