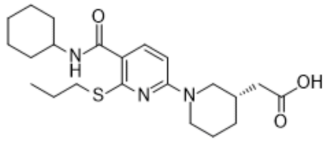
AZD 4017

Cat. No.:	HY-18053
CAS No.:	1024033-43-9
Molecular Formula:	$C_{22}H_{33}N_3O_3S$
Molecular Weight:	419.58
Target:	11β-HSD
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 : 125 mg/mL (297.92 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3833 mL	11.9167 mL	23.8334 mL
	5 mM	0.4767 mL	2.3833 mL	4.7667 mL
	10 mM	0.2383 mL	1.1917 mL	2.3833 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 (4.96 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.96 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AZD 4017 is a potent, selective 11β-Hydroxysteroid Dehydrogenase Type 1 (11β-HSD1) inhibitor, with an IC_{50} of 7 nM.

IC_{50} & Target

IC50: 7 nM (11β-HSD1)[1].

In Vitro

AZD 4017 displays excellent selectivity versus the related enzymes 11-βHSD2, 17β-HSD1, 17β-HSD3 (all IC_{50}>30 μM) and shows no measurable activity against the glucocorticoid and mineralocorticoid receptors. Despite having high potency for the human form of 11β-HSD1, AZD 4017 shows much reduced activity across species with the exception of cynomolgous monkey (IC_{50}=0.029 μM). Additionally, as it is believed that adipose is a key target organ, inhibition of 11β-HSD1 activity is measured in isolated human adipocytes from nondiabetic volunteers. AZD 4017 is shown to be a potent inhibitor in this key target tissue (IC_{50}=0.002 μM) in good agreement with the enzyme potency, thus providing some confidence that AZD 4017 is

	not restricted from adipose tissue by the fact that it was acidic[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Since AZD 4017 has lower potency against the mouse enzyme, only a limited number of preclinical pharmacodynamic measurements are performed. Increasing the dose further led to a maximal effect of approximately 70% inhibition at 1500 mg/kg, equivalent to 10×IC_{50} in the mouse, demonstrating the dose dependent inhibition of 11β-HSD1 by AZD 4017 in this model[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Scott JS, et al. Discovery of a potent, selective, and orally bioavailable acidic 11β-hydroxysteroid dehydrogenase type 1 (11β-HSD1) inhibitor: discovery of 2-[(3S)-1-[5-(cyclohexylcarbamoyl)-6-propylsulfanylpyridin-2-yl]-3-piperidyl]acetic acid (AZD4017). J Med Chem. 2012 Jun 28;55(12):5951-64.

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