AZD7325

Cat. No.: HY-111052

CAS No.: 942437-37-8

Molecular Formula: $C_{19}H_{19}FN_4O_2$

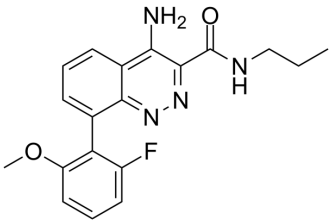
Molecular Weight: 354.38

Target: GABA Receptor; Cytochrome P450

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (282.18 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8218 mL	14.1091 mL	28.2183 mL
	5 mM	0.5644 mL	2.8218 mL	5.6437 mL
	10 mM	0.2822 mL	1.4109 mL	2.8218 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 (5.87 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AZD7325 is a potent and orally active partial selective PAM of GABAAα2 and Aα3 receptor (K_i=0.3 and 1.3 nM, respectively), and has less antagonistic efficacy at the Aα1 and Aα5 receptor subtypes[1][4]. AZD7325 is a moderate CYP1A2 and a potent CYP3A4 inducer in vitro[2]. AZD7325 has the potential for the investigation of anxiety and dravet syndrome[3]. PAM: positive allosteric modulator.

IC_{50} & Target		
	CYP1A2	CYP3A4

In Vitro

AZD7325 is a high affinity and selective modulator of the GABAA receptor system, exhibits high binding affinity at GABAA α1, α2 and α3 (K_i=0.5, 0.3, and 1.3 nM, respectively), and low at GABAAα5 (K_i=230 nM)[4].
AZD7325 (0-10 μM; 3 consecutive days; once daily) causes a maximal CYP1A2 mRNA expression of 3.2-fold, 2.1-fold, and 2.5-

fold in human hepatocytes from donor HH210, HH215, and HH216, respectively[2].
AZD7325 (0-10 μM; 3 consecutive days; once daily) causes CYP1A2 and CYP3A4 protein expression in human hepatocytes from donor HH210[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[2]

Cell Line:	Primary human hepatocytes from one female (HH210) and two male (HH215, HH216) donors
Concentration:	0.01, 0.1, 1, 10 μM
Incubation Time:	3 consecutive days
Result:	Led to increase of CYP1A2 mRNA expression

Western Blot Analysis[2]

Cell Line:	Primary human hepatocytes from donors
Concentration:	0.01, 0.1, 1, 10 μM
Incubation Time:	3 consecutive days
Result:	Increased CYP1A2 and CYP3A4 protein level.

In Vivo

AZD7325 (oral administration; 10, 17.8 or 31.6 mg/kg; 30 minutes before the induction of hyperthermia) attenuates hyperthermia-induced seizures, shows median thresholds in the treatment groups of 42.8°C for 10 mg/kg, 43.3°C for 17.8 mg/kg, and 43.4°C for 31.6 mg/kg compares to 42.2°C in vehicle group[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male and female P18 - P20 F1.Scn1a$^{+/-}$ mice[3]
Dosage:	10, 17.8 or 31.6 mg/kg
Administration:	Oral administration; 30 minutes before the induction of hyperthermia
Result:	Attenuated hyperthermia-induced seizures in F1.Scn1a$^{+/-}$ mice with no sedative effect.

REFERENCES

[1]. Chen X, et al. The central nervous system effects of the partial GABA-Aα2,3 -selective receptor modulator AZD7325 in comparison with lorazepam in healthy males.Br J Clin Pharmacol. 2014 Dec;78(6):1298-314.

[2]. Zhou D, et al. A clinical study to assess CYP1A2 and CYP3A4 induction by AZD7325, a selective GABA(A) receptor modulator - an in vitro and in vivo comparison.Br J Clin Pharmacol. 2012 Jul;74(1):98-108.

[3]. Nomura T, et al. Potentiating α2 subunit containing perisomatic GABAA receptors protects against seizures in a mouse model of Dravet syndrome.J Physiol. 2019 Aug;597(16):4293-4307.

[4]. AZD7325,Mechanism of action: Gamma-aminobutyric acid receptor A alpha 2 & 3 (GABAAα2,3) positive modulator

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

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