

Product Data Sheet

Product Name: TTA-Q6
Cat. No.: GC30950

Chemical Properties

Cas. No. 910484-28-5

SMILES N#CC1=CC=C([C@]2(C3CC3)N(CC(F)(F)F)C(NC4=C2C=C(Cl)C=C4)=O)C=C1

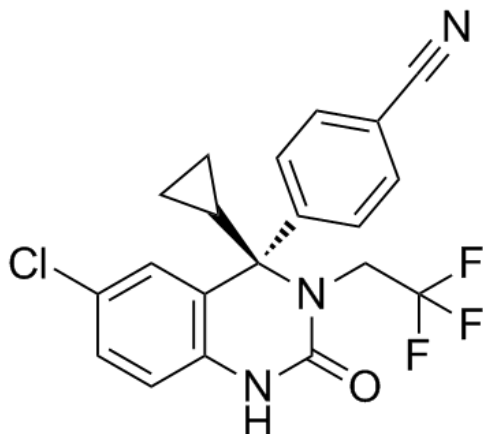
Formula $C_{20}H_{15}ClF_3N_3O$ M.Wt 405.8

Solubility DMSO : 125 mg/mL (308.03 mM) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Animal experiment [1]:

Animal models WAG/Rij epilepsy model SD rat

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

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To evaluate the effects of T-type antagonists on sleep and wake, telemetric recordings of electrocorticogram (ECoG) and electromyogram (EMG) signals Preparation Method were measured in rats. Vehicle or TTA-Q6 was dosed orally every day, 30min before the inactive phase. The ECoG and EMG signals were collected and scored for the amount of time awake or each phase of sleep.

Dosage form 10mg/kg; p.o.; once

Applications A 10mg/kg dose of TTA-Q6 to rats right before their sleep period produced a further suppression of active wake for 0.5-2h after dosing.

References:

[1] Barrow JC, Rittle KE, et.al. Discovery of 4,4-Disubstituted Quinazolin-2-ones as T-Type Calcium Channel Antagonists. ACS Med Chem Lett. 2010 Feb 1;1(2):75-9.

Background

TTA-Q6 is a selective antagonist of T-type Ca^{2+} channel and can be used in neurological research^[1].

In vivo, TTA-Q6 (10mg/kg; p.o.; once) significantly inhibited seizures in the WAG/Rij rat model of epilepsy^[2]. Oral administration of TTA-Q6 (10mg/kg) prior to the sleep period produced a further suppression of active wakefulness for 0.5 to 2 hours after dosing in rats^[2]. TTA-Q6 (1, 3, or 10mg/kg; p.o.; once) dose-dependently reduced amphetamine-induced psychomotor activity in SD rats^[3].

References:

[1] Schlegel KA, Yang ZQ, et.al. Discovery and expanded SAR of 4,4-disubstituted quinazolin-2-ones as potent T-type calcium channel antagonists. Bioorg Med Chem Lett. 2010 Sep 1;20(17):5147-52.

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[2] Barrow JC, Rittle KE, et.al. Discovery of 4,4-Disubstituted Quinazolin-2-ones as T-Type Calcium Channel Antagonists. ACS Med Chem Lett. 2010 Feb 1;1(2):75-9.

[3] Uslaner JM, Smith SM, et.al. T-type calcium channel antagonism produces antipsychotic-like effects and reduces stimulant-induced glutamate release in the nucleus accumbens of rats. Neuropharmacology. 2012 Mar;62(3):1413-21.

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