Data Sheet (Cat.No.T207661)

TargetMol

Kv7.2/Kv7.3 activator-2

Chemical Properties

CAS No. :

Formula: C17H20N2OS

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Kv7.2/Kv7.3 activator-2 is a blood-brain barrier-penetrating activator of Kv7.2/Kv7.3 channels with an EC50 of 0.25 μM. This compound exhibits excellent photostability and demonstrates potent anticonvulsant effects in acute epilepsy mouse models induced by maximal electroshock (MES) and sc-pentylenetetrazol (sc-PTZ).
Targets(IC50)	Potassium Channel
In vitro	Kv7.2/Kv7.3 activator-2 (Compound 2c) at a concentration of 10 μM demonstrates an activation efficiency that is 20% higher than that of Retigabine (RTG). Compared to the positive Kv7.1 activator ML277, Kv7.2/Kv7.3 activator-2 shows no significant effect on cardiac Kv7.1 channels. It binds to the PD site of Kv7.2, where critical residues (W236, F305, and L299) play an essential role in channel activation. Additionally, when exposed to wavelengths of 254 nm and 365 nm over a scheduled interval of 0 to 12 hours, Kv7. 2/Kv7.3 activator-2 exhibits superior photostability compared to RTG.
In vivo	Compound 2c (Kv7.2/Kv7.3 activator-2), administered intraperitoneally at doses between 1-100 mg/kg, exhibits a dose-dependent protective effect against acute seizures induced by maximal electroshock (MES) in mice, with an ED50 of 4.02 mg/kg and achieving 100% protection at a 100 mg/kg dose. Additionally, it reduces the maximal behavioral seizure score induced by sc-PTZ in a dose-dependent manner, with an ED50 of 43.17 mg/kg, enhancing mouse survival at 10 mg/kg. At doses of 10-50 mg/kg intraperitoneally, the compound affects mouse locomotion, causing motor impairment at the 50 mg/kg dose. Administered orally at 100-679 mg/kg, it shows safe acute toxicity in KM mice, with an LD50 of 340.35 mg/kg.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481