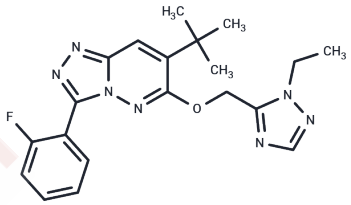
Data Sheet (Cat.No.T17144)

TPA 023

Chemical Properties



CAS No. : 252977-51-8

Formula: C20H22FN7O

Molecular Weight: 395.43

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	TPA 023 is a selective agonist of GABAA α2/α3 subtype (Kis = 0.19 - 0.41 nM).
Targets(IC50)	GABA Receptor
In vivo	TPA023 (0.7, 2.0, and 5 mg/kg, p.o.) blocks ketamine's cognitive-impairing ability but does not influence the behavioral symptoms of rhesus monkeys[1]. In rats, TPA023 (0.42 mg/kg; oral) displays good receptor occupancy and results in 50% occupancy of rat brain GABAA receptors, with the corresponding plasma concentration being 25 ng/mL. TPA023 (3 mg/kg p.o. in 0.5% methylcellulose) shows anxiolytic-like effect on rats. TPA023(10 mg/kg i.p.) is efficacious in the mouse pentylenetetrazole-induced seizure model, providing full seizure protection(84% occupancy), with the ED50 of 0.19-0.41 nM [2].

Solubility Information

Solubility	DMSO: 50 mg/mL (126.44 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5289 mL	12.6445 mL	25.2889 mL
5 mM	0.5058 mL	2.5289 mL	5.0578 mL
10 mM	0.2529 mL	1.2644 mL	2.5289 mL
50 mM	0.0506 mL	0.2529 mL	0.5058 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Castner SA, et al. Reversal of ketamine-induced working memory impairments by the GABAAalpha2/3 agonist TPA023. Biol Psychiatry. 2010 May 15;67(10):998-1001.
Atack JR. Subtype-selective GABA(A) receptor modulation yields a novel pharmacological profile: the design and development of TPA023. Adv Pharmacol. 2009;57:137-85