Product Data Sheet

Product Name: SNAP 398299
Cat. No.: GC50161

Chemical Properties

Cas. No.	903878-06-8		
SMILES	O=C3/C(C2=CC=CC=C2N3C4=CC(OCCN5CCCC5)=CC=C4)=N/C1=CC=CC(C(F)(F)F)=C1		
Formula	$C_{27}H_{24}F_3N_3O_2$	M.Wt	479.49
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	SNAP 398299		

Protocol

Cell experiment [1]:

Cell lines	HEK-293 cells (human embryonic kidney cell line) transiently cotransfected with the human Gal3 receptor and Gαz protein
Preparation Method	HEK-293 cells were treated with SNAP 398299 at concentrations ranging from 10nM to 10μM for 20 minutes. Galanin (1μM) was then added, followed by incubation with 20μM Forskolin for 5 minutes. The inhibition of adenylyl cyclase activity was measured.
Reaction Conditions	10nM-10μM; 20min.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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Applications	SNAP 398299 antagonized, in a concentration-dependent and competitive manner, the inhibitory effect of galanin on forskolin-stimulated adenylyl cyclase activity.

Animal experiment [1]:

Animal models	Adult male Sprague-Dawley rats and infant Hartley guinea pigs
Preparation Method	Rats received acute oral administration of SNAP 398299 (1, 3, and 10mg/kg) were tested in the forced swim test (FST) 2 hours later. Social interaction tests were conducted 1 hour after oral administration in rats, and guinea pig pups were observed for vocalizations after maternal separation following administration.
Dosage form	1, 3, 10mg/kg; p.o.; single administration
Applications	Acute administration of SNAP 398299 significantly increased active social interaction time in rats, reduced anxiety-related vocalizations in guinea pig pups, and produced antidepressant-like effects in the forced swim test (FST) by decreasing immobility time and increasing swimming time.

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References:
[1] Swanson CJ, Blackburn TP, Zhang X, et al. Anxiolytic- and antidepressant-like profiles of the galanin-3 receptor (Gal3) antagonists SNAP 37889 and SNAP 398299. Proc Natl Acad Sci U S A. 2005 Nov 29;102(48):17489-94.

Background

SNAP 398299 is a selective antagonist of the galanin-3 receptor (Gal3)[1-2]. SNAP 398299 is used in research related to anxiety and depression[3-4].

In vitro, HEK-293 cells co-expressing the human Gal3 receptor and Gαz protein were treated with SNAP 398299 (10nM-10μM) for 20 minutes, followed by incubation with 20μM Forskolin for 5 minutes. SNAP 398299 antagonized, in a concentration-dependent manner, the inhibitory effect of galanin on forskolin-stimulated adenylyl cyclase activity[5].

In vivo, rats were treated with an acute intraperitoneal injection of SNAP 398299 (1-10mg/kg) 1-2 hours prior to testing. SNAP 398299 significantly increased active social interaction time in rats, decreased immobility time, and increased swimming time in the forced swim test[5].

References:
[1] Seshan G, Kanagasabai S, Ananthasri S, et al. Insights of structure-based pharmacophore studies and inhibitor design against Gal3 receptor through molecular dynamics simulations. J Biomol Struct Dyn. 2021 Nov;39(18):6987-6999.
[2] Kothandan G, Gadhe CG, Cho SJ. Theoretical characterization of galanin receptor type 3 (Gal3) and its interaction with agonist (GALANIN) and antagonists (SNAP 37889 and SNAP 398299): an in silico analysis. Chem Biol Drug Des. 2013 Jun;81(6):757-74.
[3] Ogren SO, Kuteeva E, Hökfelt T, et al. Galanin receptor antagonists : a potential novel pharmacological treatment for mood disorders. CNS Drugs. 2006;20(8):633-54.
[4] Scheller KJ, Williams SJ, Lawrence AJ, et al. An improved method to prepare an injectable microemulsion of the galanin-receptor 3 selective antagonist, SNAP 37889,

using Kolliphor(®) HS 15. MethodsX. 2014 Sep 26;1:212-6.
[5] Swanson CJ, Blackburn TP, Zhang X, et al. Anxiolytic- and antidepressant-like profiles of the galanin-3 receptor (Gal3) antagonists SNAP 37889 and SNAP 398299. Proc Natl Acad Sci U S A. 2005 Nov 29;102(48):17489-94.

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