

Product Data Sheet

Product Name: MS21570

Cat. No.: GC30894

Chemical Properties

Cas. No. 65373-29-7

SMILES CNC1=NN=C(SCC2=CC=CC=C2)S1

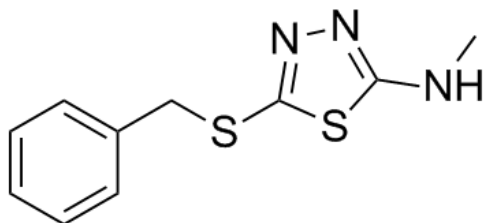
Formula $C_{10}H_{11}N_3S_2$ M.Wt 237.34

Solubility DMSO : 125 mg/mL (526.67 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

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

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Animal experiment: Mice[1] Male C57bl/6J or AgRP-IRES-Cre mice are 8-12 weeks old at the beginning of the experiment. Mice are habituated to the testing room 1 h prior to each experiment. Behaviors are videotaped and analyzed. Mice are injected with MS21570 (MS0021570_1: 5 mg/kg, i.p.) 15 min prior to elevated plus maze, open field, forced swim and contextual fear conditioning. For microinjection studies, MS21570 is injected 10 min prior testing and immediately following the contextual fear conditioning. Singly housed AgRP-IRES-Cre mice with cre-inducible DREADD in the arcuate nucleus receive MS21570 (3.5 mg/kg, i.p.) or vehicle (6% DMSO in saline) 15 min prior to CNO (1 mg/kg, i.p.) or saline injection. Food intake is measured at 1, 2, 4, and 8 hours post-injection[1].

References:

[1]. Bobeck EN, et al. The BigLEN-GPR171 Peptide Receptor System Within the Basolateral Amygdala Regulates Anxiety-Like Behavior and Contextual Fear Conditioning. *Neuropsychopharmacology*. 2017 Dec;42(13):2527-2536.

Background

MS21570 is a selective GPR171 antagonist, with an IC₅₀ of 220 nM.

MS21570 significantly attenuates this CNO-mediated increase in food intake. Interestingly, MS21570 causes a significant increase in center time compared to vehicle suggesting an effect on the anxiety-like behavior. Intra-BLA administration of MS21570 leads to an increase in open arm time on the elevated plus maze although there is no effect on locomotor activity during this test. Interestingly, when administered before and immediately following fear conditioning, MS21570 significantly attenuates freezing measured 24 hours later. Behavioral differences between systemic and intra-BLA administration of MS21570 could be due to the pharmacokinetic and pharmacodynamic properties of the drug. Further studies are needed to characterize the GPR171 antagonist[1].

[1]. Bobeck EN, et al. The BigLEN-GPR171 Peptide Receptor System Within the Basolateral Amygdala Regulates Anxiety-Like Behavior and Contextual Fear Conditioning. *Neuropsychopharmacology*. 2017 Dec;42(13):2527-2536.

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