

Product data sheet



MedKoo Cat#: 561754 Name: MS21570 CAS: 65373-29-7 Chemical Formula: C ₁₀ H ₁₁ N ₃ S ₂ Exact Mass: 237.0394 Molecular Weight: 237.339	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

MS21570 is a GPR171 antagonist that reduces anxiety-like behavior and fear conditioning in mice.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	74.37	313.33
Ethanol	23.73	100.0

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	4.21 mL	21.07 mL	42.13 mL
5 mM	0.84 mL	4.21 mL	8.43 mL
10 mM	0.42 mL	2.11 mL	4.21 mL
50 mM	0.08 mL	0.42 mL	0.84 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

Bobeck EN, Gomes I, Pena D, Cummings KA, Clem RL, Mezei M, Devi LA. 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. doi: 10.1038/npp.2017.79. Epub 2017 Apr 20. PMID: 28425495; PMCID: PMC5686498.

In vivo study

Bobeck EN, Gomes I, Pena D, Cummings KA, Clem RL, Mezei M, Devi LA. 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. doi: 10.1038/npp.2017.79. Epub 2017 Apr 20. PMID: 28425495; PMCID: PMC5686498.

7. Bioactivity

Biological target:

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

In vitro activity

Displacement binding assays show that MS0021570_1 dose dependently and completely displaced radiolabeled BigLEN binding to hypothalamic membranes albeit with a lower affinity (~31-fold) compared to BigLEN (Figure 1c); MS0015917 only partially (~37%) displaced radiolabeled BigLEN binding (Figure 1c).

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Reference: Reference: Neuropsychopharmacology. 2017 Dec;42(13):2527-2536. <https://pubmed.ncbi.nlm.nih.gov/28425495/>

In vivo activity

The role of GPR171 in anxiety-like behavior or fear conditioning was evaluated following systemic or intra-BLA administration of MS0021570_1, as well as following lentiviral-mediated knockdown of GPR171 in the BLA. This study finds that systemic administration of MS0021570_1 attenuates anxiety-like behavior in mice while intra-BLA administration or knockdown of GPR171 in the BLA reduces anxiety-like behavior and fear conditioning.

Reference: Neuropsychopharmacology. 2017 Dec;42(13):2527-2536. <https://pubmed.ncbi.nlm.nih.gov/28425495/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.