

Product data sheet



MedKoo Cat#: 530362 Name: JT010 CAS: 917562-33-5 Chemical Formula: C ₁₆ H ₁₉ ClN ₂ O ₃ S Exact Mass: 354.0805 Molecular Weight: 354.849		
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:

JT010 is a potent and TRPA1-selective channel activator via covalent modification of TRPA1 active site Cys621. JT010 opens the TRPA1 channel by covalently and site-selectively binding to Cys621 (EC₅₀ = 0.65 nM). The results suggest that a single modification of Cys621 is sufficient to open the TRPA1 channel. The TRPA1-selective probe described herein might be useful for further mechanistic studies of TRPA1 activation.

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	68.95	194.30
Ethanol	26.87	75.72

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.82 mL	14.09 mL	28.18 mL
5 mM	0.56 mL	2.82 mL	5.64 mL
10 mM	0.28 mL	1.41 mL	2.82 mL
50 mM	0.06 mL	0.28 mL	0.56 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

1. Tazawa K, Kawashima N, Kuramoto M, Noda S, Fujii M, Nara K, Hashimoto K, Okiji T. Transient Receptor Potential Ankyrin 1 Is Up-Regulated in Response to Lipopolysaccharide via P38/Mitogen-Activated Protein Kinase in Dental Pulp Cells and Promotes Mineralization. *Am J Pathol.* 2020 Dec;190(12):2417-2426. doi: 10.1016/j.ajpath.2020.08.016. Epub 2020 Sep 11. PMID: 32919979.
2. Suo Y, Wang Z, Zubcevic L, Hsu AL, He Q, Borgnia MJ, Ji RR, Lee SY. Structural Insights into Electrophile Irritant Sensing by the Human TRPA1 Channel. *Neuron.* 2020 Mar 4;105(5):882-894.e5. doi: 10.1016/j.neuron.2019.11.023. Epub 2019 Dec 19. PMID: 31866091; PMCID: PMC7205012.

In vivo study

TBD

7. Bioactivity

Biological target:

JT010 is a potent agonist of TRPA1 with an EC₅₀ of 0.65 nM.

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In vitro activity

Moreover, JT010, a TRPA1 agonist, increased the intracellular calcium concentration and extracellular signal-regulated kinase 1/2 phosphorylation, and up-regulated alkaline phosphatase mRNA in human dental pulp cells.

Reference: Am J Pathol. 2020 Dec;190(12):2417-2426. <https://pubmed.ncbi.nlm.nih.gov/32919979/>

In vivo activity

TBD

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.