
Product Data Sheet

Product Name: TRPV4 agonist-1

Cat. No.: GC65536

Chemical Properties

Cas. No. 2314467-60-0

Formula C₂₅H₂₃ClF₂N₄O₂

M.Wt

484.93

Solubility DMSO : ≥50mg/mL

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

Background

TRPV4 agonist-1 is a transient receptor potential vanilloid 4 (TRPV4) agonist with an EC₅₀ value of 60nM in the hTRPV4 Ca²⁺ test^[1]. TRPV4 is a non-selective cation channel that can act as a cell sensor to sense mechanical stimulation, osmotic pressure changes, temperature and certain chemical signals, and plays an important role in the development of drugs for a variety of diseases^[2, 3]. TRPV4 agonist-1 can bind to the TRPV4 channel protein. The binding site is located in the cytoplasmic pocket formed between S1 and S4. TRPV4 agonist-1 binds to this pocket, causing the S4-S5 linker in the TRPV4 structure to move upward, thereby causing S6 to move, opening the TRPV4 channel and playing the role of an agonist^[4].

References:

- [1] Atobe M, Nagami T, Muramatsu S, et al. Discovery of novel transient receptor potential vanilloid 4 (TRPV4) agonists as regulators of chondrogenic differentiation: Identification of quinazolin-4 (3 H)-ones and in vivo studies on a surgically induced rat model of osteoarthritis[J]. Journal of medicinal chemistry, 2019, 62(3): 1468-1483.
- [2] Plant T D, Strotmann R. Trpv4[J]. Transient Receptor Potential (TRP) Channels, 2007: 189-205.

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

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[3] Koskimäki S, Tojkander S. TRPV4—A multifunctional cellular sensor protein with therapeutic potential[J]. Sensors, 2024, 24(21): 6923.

[4] Zhen W, Zhao Z, Chang S, et al. Structural basis of ligand activation and inhibition in a mammalian TRPV4 ion channel[J]. Cell discovery, 2023, 9(1): 70.

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