SN 2

Cat. No.: HY-16696

CAS No.: 823218-99-1

Molecular Formula: $C_{17}H_{21}NO$

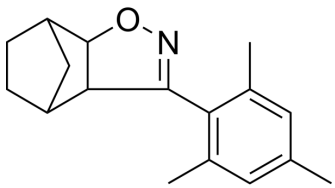
Molecular Weight: 255.35

Target: TRP Channel; Flavivirus; Flavivirus; Dengue virus

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (391.62 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9162 mL	19.5810 mL	39.1619 mL
	5 mM	0.7832 mL	3.9162 mL	7.8324 mL
	10 mM	0.3916 mL	1.9581 mL	3.9162 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (9.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.79 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SN 2 is a potent activator of TRPML3 ion channel with an EC_{50} of 1.8 μM[1]. SN 2 also acts as a potent inhibitor of Dengue virus 2 (DENV2) and Zika virus (ZIKV)[2].

IC_{50} & Target

EC50: 1.8±0.13 μM (TRPML3), >29.9 μM (TRPML1)[1]

In Vitro

The conductance of TRPML3 channels is estimate, when activated with 10 μM SN-2 is approximately 10 pS at −80 mV. TRPML3-expressing HEK293 cells are perfused with a series starting with compound alone (in SBS), with compound in ELS, and finally with ELS alone. Two representative compounds, SF-24 and SN-2, are tested. SF-24 is one of the least effective compounds, and SN-2 is one of the most active ones. SN-2 has a similar synergistic effect, also reaching up-to 10-fold enhancement of the combined response when compared with the individual responses, reaching average current densities

of up to 3 nA/pF at −80 mV. Dominant negative TRPML3(D458K) is highly effective in eliminating SN-2-induced activity in epidermal melanocytes, suggesting that SN-2 activates a channel that is not responsive in presence of TRPML3(D458K). Such a dominant negative action might be attributed to potential heteromerization of TRPML3(D458K) with an SN-2-responsive channel[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Antiviral Res. 20 October 2021, 105193.
- Antiviral Res. 2020 Oct;182:104922.
- Gene. 2023 Feb 20;147291.

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REFERENCES

[1]. Grimm C, et al. Small molecule activators of TRPML3. Chem Biol. 2010 Feb 26;17(2):135-48.

[2]. Zhiqiang Xia, et al. ML-SA1, a selective TRPML agonist, inhibits DENV2 and ZIKV by promoting lysosomal acidification and protease activity. Antiviral Res. 2020 Aug 26;104922.

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