# Cav 3.2 inhibitor 2

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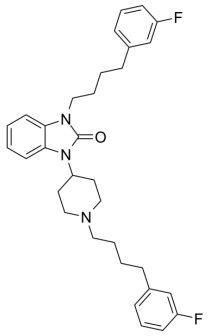
| **Cat. No.:** | HY-151451 |
| **CAS No.:** | 2878598-92-4 |
| **Molecular Formula:** | $C_{32}H_{37}F_2N_3O$ |
| **Molecular Weight:** | 517.65 |
| **Target:** | Calcium Channel |
| **Pathway:** | Membrane Transporter/Ion Channel; Neuronal Signaling |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |



## BIOLOGICAL ACTIVITY

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| **Description** | Cav 3.2 inhibitor 2 is a $Ca_V3.2$ T-type $Ca^{2+}$ channels inhibitor with an $IC_{50}$ of 0.09339 μM under -80mV holding potential. Cav 3.2 inhibitor 2 potently suppresses T-channel-dependent somatic and visceral pain in mice. Cav 3.2 inhibitor 2 can be used for the research of intractable pain[1]. |
| **$IC_{50}$ & Target** | IC50: 0.09339 μM (-80mV $Ca_V3.2$), 1.109 μM (-110mV $Ca_V3.2$), 0.2167 μM ($Ca_V3.1$)[1] |
| **In Vitro** | Cav 3.2 inhibitor 2 (0.3 μM) shows a produced inhibition of $Ca_V3.2$ comparable to that of pimozide[1].<br>Cav 3.2 inhibitor 2 (1 and 10 μM; 90 min) shows a binding affinity to D2 receptor significantly less than pimozide[1].<br>Cav 3.2 inhibitor 2 (0.01-10 μM) inhibits T channels isoforms with $IC_{50}$s of 0.09339, 1.109 and 0.2167 μM for -80mV $Ca_V3.2$, -110mV $Ca_V3.2$ and $Ca_V3.1$, respectively[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Cav 3.2 inhibitor 2 (1-10 mg/kg; i.p. 30 min before i.pl. $Na_2S$) affects the $Na_2S$-induced pain in vivo[1].<br>Cav 3.2 inhibitor 2 (10 mg/kg; i.p. 7 days after oxaliplatin treatment) affects oxaliplatin-induced allodynia in vivo[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

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| Animal Model: | Mice with $Na_2S$ intraplantar (i.pl.) administration[1] |
| Dosage: | 1, 3 and 10 mg/kg |
| Administration: | Intraperitoneal injection; 1-10 mg/kg 30 min before i.pl. $Na_2S$ |
| Result: | Almost completely blocked the $Na_2S$-induced colonic pain and referred hyperalgesia. |

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| Animal Model: | Wild-type (WT) or $Ca_V3.2$-kockout (KO) C57BL/6 mice with oxaliplatin (OHP) injection[1] |
| Dosage: | 10 mg/kg |
| Administration: | Intraperitoneal injection; 10 mg/kg on day 7 after oxaliplatin treatment |
| Result: | Attenuated the oxaliplatin-induced allodynia in WT C57BL/6 mice, while showed no effect on KO mice. |

## REFERENCES

[1]. Kasanami Y, et al. Discovery of pimozide derivatives as novel T-type calcium channel inhibitors with little binding affinity to dopamine D2 receptors for treatment of somatic and visceral pain. Eur J Med Chem. 2022 Aug 27;243:114716.



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