# AUT1

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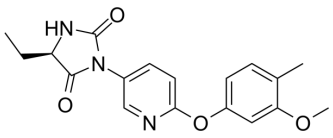
|---|---|
| **Cat. No.:** | HY-117639 |
| **CAS No.:** | 1311136-84-1 |
| **Molecular Formula:** | $C_{18}H_{19}N_3O_4$ |
| **Molecular Weight:** | 341.36 |
| **Target:** | Potassium Channel |
| **Pathway:** | Membrane Transporter/Ion Channel |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 2 years<br>-20°C 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 250 mg/mL (732.36 mM)

* "≥" means soluble, but saturation unknown.

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.9295 mL | 14.6473 mL | 29.2946 mL |
| | 5 mM | 0.5859 mL | 2.9295 mL | 5.8589 mL |
| | 10 mM | 0.2929 mL | 1.4647 mL | 2.9295 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: ≥ 2.08 mg/mL (6.09 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.09 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.09 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

AUT1 is a recombinant human Kv3 channel modulator. AUT1 modulates Kv3.1b and Kv3.2a channels in human recombinant with $pEC_{50}$ values of 5.33 and 5.31 μM, respectively. AUT1 can be used for the research of disorders associated with dysfunction of inhibitory feedback in corticolimbic circuits, such as schizophrenia[1].

**$IC_{50}$ & Target**

pEC50: 5.33 μM(Kv3.1b); 5.31 μM (Kv3.2a)[1]

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| **In Vitro** | AUT1 (1.5, 12.5, and 25 μM) modulates Kv3.1b and Kv3.2a channels in human recombinant with $pEC_{50}$s of 5.33 and 5.31 μM, respectively[1].<br>AUT1 increases whole currents mediated by human Kv3.1b and Kv3.2a channels in a concentration-dependent manner[1].<br>AUT1 (10 and 30 μM) shifts both the voltage dependence of activation and inactivation of human Kv3.1b and Kv3.2a channels[1].<br>AUT1 rescues (1 and 10 μM) the fast firing of EGFP-positive cortical interneurons[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES

[1]. Rosato-Siri MD, et al. A Novel Modulator of Kv3 Potassium Channels Regulates the Firing of Parvalbumin-Positive Cortical Interneurons. J Pharmacol Exp Ther. 2015 Sep;354(3):251-60.



Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA