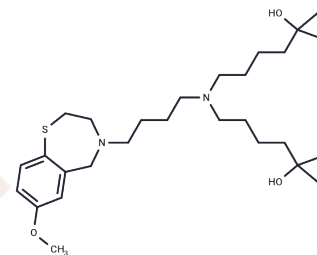


RyR2 stabilizer-1

Chemical Properties

CAS No. : 3012675-16-7
 Formula: C₂₈H₄₆N₂O₃S
 Molecular Weight: 490.74
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.



Biological Description

| | |
|----------------------------|--|
| Description | RyR2 stabilizer-1 (Compound 12a) is a potent stabilizer of RyR2 and an activator of SERCA2a, with EC ₅₀ values of 2.7 μM for RyR2 and 383 nM for SERCA2. This compound inhibits the leakage of Ca ²⁺ through SR RyR2 while promoting the reuptake of Ca ²⁺ into the SR by SERCA2, suggesting its potential in preventing arrhythmias. |
| Targets(IC ₅₀) | Calcium Channel |
| In vitro | RyR2 stabilizer-1, when administered in the range of 0-100 μM, significantly elevates [Ca ²⁺] ER in a dose-dependent manner, exhibiting the most pronounced effect at concentrations above 25 μM. The compound's EC ₅₀ values for SERCA2a in mouse SR, HL-1, and HEK ER are 383 nM, 9.2 μM, and 16 nM, respectively. After a 2-hour incubation with 10 μM of RyR2 stabilizer-1, an enhancement of HL-1 SERCA2a activity is observed in caffeine-induced calcium release assays. At concentrations of 0-50 μM over 24 hours in HL-1, the compound does not induce significant cell death, as evidenced by a CytoTox-Glo cytotoxicity assay. Additionally, a 5-minute exposure to 100 μM results in a marked decrease in NADH fluorescence, indicating increased SERCA2a activity in murine ventricular SR microsomes and an increase in ATPase activity. |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|------------|------------|
| 1 mM | 2.0377 mL | 10.1887 mL | 20.3774 mL |
| 5 mM | 0.4075 mL | 2.0377 mL | 4.0755 mL |
| 10 mM | 0.2038 mL | 1.0189 mL | 2.0377 mL |
| 50 mM | 0.0408 mL | 0.2038 mL | 0.4075 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481