

M47

Chemical Properties

CAS No. : 890808-56-7

Formula: C₂₈H₂₂ClNO₄

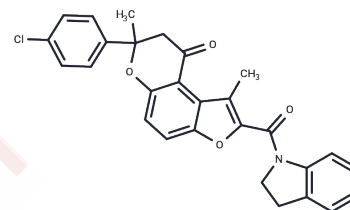
Molecular Weight: 471.93

Storage:

Keep away from moisture, Keep away from direct sunlight, Store at low temperature

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 | M47 is a selective CRY1 (Cryptochrome 1) degrader that enhances nuclear degradation of CRY1 and disrupts its stability, thereby extending the lifespan of p53 knockout mice. It facilitates research into various cancers involving p53 mutations. |
| Targets(IC50) | Apoptosis, p53 |
| In vitro | In U2OS Bmal1-dLuc cells, M47 (0-10 μM, 0-120 hours) can shorten the half-life of CRY1 (Cryptochrome 1) in a dose-dependent manner and induce circadian rhythm alterations [1]. In U2OS cells, M47 (10 μM, 24-44 hours) can reduce the protein level of CRY1 in the cells [1]. |
| In vivo | In C57BL/6J mice and p53 gene knockout C57BL/6J mice, M47 (5-1000 mg/kg, intraperitoneal injection, once daily for 5 consecutive days) selectively shortened the half-life of CRY1 (cryptochrome 1); M47 exhibited good tolerability in vivo, possessed excellent pharmacokinetic characteristics, and also promoted apoptosis [1]. |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|-----------|------------|------------|
| 1 mM | 2.119 mL | 10.5948 mL | 21.1896 mL |
| 5 mM | 0.4238 mL | 2.119 mL | 4.2379 mL |
| 10 mM | 0.2119 mL | 1.0595 mL | 2.119 mL |
| 50 mM | 0.0424 mL | 0.2119 mL | 0.4238 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.

Reference

Gul S, et, al. Discovery of a small molecule that selectively destabilizes Cryptochrome 1 and enhances life span in p53 knockout mice. Nat Commun. 2022 Nov 8;13(1):6742.

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