Furaprofen

Cat. No.: HY-U00213

CAS No.: 67700-30-5

Molecular Formula: $C_{17}H_{14}O_3$

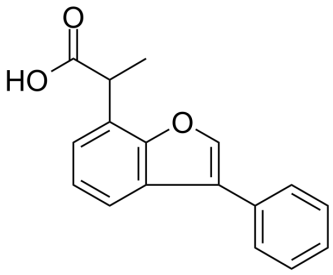
Molecular Weight: 266.29

Target: HCV

Pathway: 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 : 250 mg/mL (938.83 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7553 mL	18.7765 mL	37.5530 mL
5 mM	0.7511 mL	3.7553 mL	7.5106 mL
10 mM	0.3755 mL	1.8777 mL	3.7553 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 (7.81 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (7.81 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (7.81 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Furaprofen (R803) is an effective HCV replication inhibitor. Furaprofen (R803) is substantially more potent against genotype 1a and 1b replicons (EC_{50}, ~30 nM) than against the genotype 2a replicon (EC_{50}, ~1,000 nM).

IC_{50} & Target

EC50: ~30 nM (HCV genotype 1a and 1b replicons), ~1000 nM (HCV genotype 2a replicon)[1]

In Vitro

Furaprofen (R803) is potent and highly specific for HCV replication. The antiviral activity of Furaprofen has been determined by a reporter replicon assay with multiple repeats to be 29.88±8.05 nM, an ~3-fold improvement over the activity of the

parent compound, R706. The potency of Furaprofen against the replicon is also confirmed by both Western blotting and TaqMan RT-PCR to be about 37 nM and 54.67±4.11 nM, respectively. To assess the general effect of Furaprofen on cell proliferation, a panel of primary cells and transformed human cell lines are treated with increasing doses of Furaprofen for 48 h, and the effect on cell proliferation is measured by an MTS-based cell viability assay. The the concentration that caused a 50% reduction in cell numbers in the absence of virus infection (CC_{50}) of Furaprofen is found to range from 2 μM to ≥10 μM, depending on the cell type and proliferation status[1].

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

PROTOCOL

Cell Assay [1]

Replicon 9-13 cells are plated onto 6-well plates 24 h prior to the treatment. Serial dilutions of Furaprofen are made in a mixture containing 90% of the culture medium, 7.2% 1× PBS, 1.8% methanol, 1% DMSO, 20 μM RBV, and varying concentrations of IFN-α for a fixed-ratio dose-response study. The cells are treated with the designated combinations of Furaprofen (0 to 80 nM concentrations) and IFN-α (0 to 4 IU/mL) plus 20 μM RBV for 72 h; then they are washed with PBS, lysed in SDS loading buffer, and analyzed by Western blotting[1].

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

REFERENCES

[1]. Huang P, et al. Discovery and characterization of substituted diphenyl heterocyclic compounds as potent and selective inhibitors of hepatitis C virus replication. Antimicrob Agents Chemother. 2008 Apr;52(4):1419-29.

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