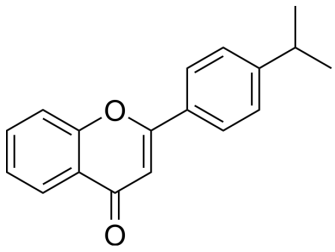
MN-64

Cat. No.:	HY-19351
CAS No.:	92831-11-3
Molecular Formula:	$C_{18}H_{16}O_2$
Molecular Weight:	264.32
Target:	PARP
Pathway:	Cell Cycle/DNA Damage; Epigenetics
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 : 100 mg/mL (378.33 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7833 mL	18.9165 mL	37.8329 mL
5 mM	0.7567 mL	3.7833 mL	7.5666 mL
10 mM	0.3783 mL	1.8916 mL	3.7833 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: ≥ 2.5 mg/mL (9.46 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (9.46 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.46 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MN-64 is a potent tankyrase 1 inhibitor, with IC_{50}s of 6 nM, 72 nM, 19.1 μM, and 39.4 μM for TNKS1, TNKS2, ARTD1 and ARTD2, respectively.

IC_{50} & Target

TNKS1	TNKS2	ARTD1	ARTD2
6 nM (IC_{50})	72 nM (IC_{50})	19.1 μM (IC_{50})	39.4 μM (IC_{50})

In Vitro

MN-64 is a potent tankyrase 1 inhibitor, with IC_{50}s of 6 nM, 72 nM, 19.1 μM, 39.4 μM for TNKS1, TNKS2, ARTD1 and ARTD2,

respectively. MN-64 effectively inhibits Wnt/β-catenin at 1 μM, and blocks STF luciferase activity at 200 nM[1].

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

PROTOCOL

Kinase Assay [1]

Inhibitory potency of compounds on Tankyrase-1 enzymatic activity is evaluated using a Scintillation Proximity Assay (SPA). The assay is designed to measure compound inhibition of Tankyrase-1 autoPARsylation (Tankyrase-1 is both enzyme and substrate in this assay). Truncated recombinant human Tankyrase-1 protein (amino acids E1023-T1327) is purified from SF9 cells. The assay is conducted using 0.11 μM of Tankyrase-1 protein and 3 μM nicotinamide adenine dinucleotide (NAD^+, 2.12 μM ^3H-NAD^+ with a specific radioactivity of 1690 Ci/mol, 0.88 μM biotin- NAD^+), in pH 7.5 Tris buffer (60 mM Tris, 1 mM DTT, 0.01% (v/v) Tween-20®, 2.5 mM $MgCl_2$, 0.3 mg/mL BSA). For IC_{50} determination, 10 mM DMSO stock solution of a compound (MN-64) is sequentially diluted by two-fold in DMSO, and aliquots of the diluted solutions are transferred to 384-well assay plates and mixed with Tankyrase-1 solution[1].

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

CUSTOMER VALIDATION

- Nat Commun. 2019 Oct 25;10(1):4898.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.
- Patent. US20210353681A1.

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REFERENCES

[1]. Narwal M, et al. Discovery of tankyrase inhibiting flavones with increased potency and isoenzyme selectivity. J Med Chem. 2013 Oct 24;56(20):7880-9.

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