Benzamide

Cat. No.: HY-Z0283

CAS No.: 55-21-0

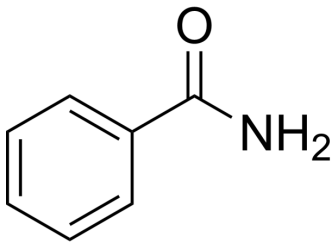
Molecular Formula: C_7H_7NO

Molecular Weight: 121.14

Target: Endogenous Metabolite; PARP

Pathway: Metabolic Enzyme/Protease; Cell Cycle/DNA Damage; Epigenetics

Storage: Store at room temperature 3 years
In solvent -80°C 2 years
-20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (825.50 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	8.2550 mL	41.2749 mL	82.5498 mL
	5 mM	1.6510 mL	8.2550 mL	16.5100 mL
	10 mM	0.8255 mL	4.1275 mL	8.2550 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 (20.64 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (20.64 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (20.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Benzamide (Benzenecarboxamide) is a potent poly(ADP-ribose) polymerase (PARP) inhibitor. Benzamide has protective activity against both glutamate- and methamphetamine (METH)-induced neurotoxicity in vitro. Benzamide can attenuate the METH-induced dopamine depletions and exhibits neuroprotective activity in mice, also has no acute effect on striatal dopamine metabolism and does not reduce body temperature[1].

IC_{50} & Target

Human Endogenous Metabolite

In Vivo

Benzamide (160 mg/kg; IP, 2 injection by a 4 h interval) attenuates the METH-induced dopamine depletions[1].

Benzamide (160 mg/kg; IP, single dosage) has no acute effect on striatal dopamine metabolism and does not reduce body temperature[1].

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

Animal Model:	C57B1/6N mice (intraperitoneal injection of METH at 2-h intervals; 4 injections of 5 mg/kg, 4 injections of 10 mg/kg, or 2 injections of 20 mg/kg)[1]
Dosage:	160 mg/kg
Administration:	IP, 2 injection by a 4 h interval
Result:	Partially and significantly attenuated the METH-induced dopamine depletions during the different METH treatment.

Animal Model:	C57B1/6N mice[1]
Dosage:	160 mg/kg
Administration:	IP, single dosage
Result:	Had no acute effect on striatal dopamine metabolism and did not reduce body temperature.

REFERENCES

[1]. Cosi C, et al. Benzamide, an inhibitor of poly(ADP-ribose) polymerase, attenuates methamphetamine-induced dopamine neurotoxicity in the C57B1/6N mouse. Brain Res. 1996 Oct 7;735(2):343-8.

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