3-Aminobenzamide

Cat. No.: HY-12022

CAS No.: 3544-24-9

Molecular Formula: $C_7H_8N_2O$

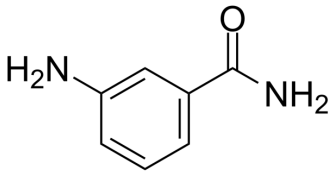
Molecular Weight: 136.15

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

H_2O : ≥ 11.11 mg/mL (81.60 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	7.3448 mL	36.7242 mL	73.4484 mL
5 mM	1.4690 mL	7.3448 mL	14.6897 mL
10 mM	0.7345 mL	3.6724 mL	7.3448 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 25 mg/mL (183.62 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

3-Aminobenzamide (PARP-IN-1) is a potent inhibitor of PARP with IC_{50} of appr 50 nM in CHO cells, and acts as a mediator of oxidant-induced myocyte dysfunction during reperfusion.

IC_{50} & Target

PARP

50 nM (IC_{50})

In Vitro

3-Aminobenzamide (PARP-IN-1) (>1 μM) causes more than 95% inhibition of PARP activity without significant cellular toxicity. INO-1001 significantly sensitizes CHO cells by blocking most of the DNA repair occurring between radiation fractions [1]. 3-Aminobenzamide significantly improves endothelial function by enhancing the acetylcholine-induced, endothelium-dependent, nitric oxide mediated vasorelaxation after exposure with 400 μM H_2O_2 [2].

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

In Vivo	In a db/db (Leprdb/db) mouse model, 3-Aminobenzamide ameliorates diabetes-induced albumin excretion and mesangial expansion, and also decreases diabetes-induced podocyte depletion[3]. 3-Aminobenzamide (1.6 mg/kg via intracerebral injection) prevents NAD^+ depletion and improves water maze performance after controlled cortical impact (CCI) in mice[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Kinase Assay [1]	PARP activity is measured with a PARP Activity Assay Kit. This method measures relative PARP activity by determining the level of incorporation of ^{3}H-NAD into trichloroacetic acid (TCA) precipitable material in the presence of sheared genomic DNA, which activates PARP. The reaction mixture is added directly to washed cultures in 12-well culture plates and the reaction is allowed to proceed for 60 minutes at 37°C before the cells are removed mechanically, transferred to a microcentrifuge tube, and precipitated with ice-cold 5% TCA. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3]	Male db/db (Leprdb/db) mice, together with nondiabetic control db/m mice on C57BLKs/J background, are used. INO-1001 and PJ-34 treatment are initiated at 5 weeks of age. In sterile water that is sweetened with NutraSweet, 4.8 g/L 3-Aminobenzamide and 2.4 g/L PJ-34 is dissolved. Control animals receive sweetened water only. The average inhibitor consumption is 60 mg/kg 3-Aminobenzamide and 30 mg/kg PJ-34. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Acta Pharmacol Sin. 2023 Apr 25.
- Acta Pharmacol Sin. 2019 May;40(5):589-598.
- Fish Shellfish Immunol. 2023 Mar 14;135:108682.
- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.
- Mol Cell Endocrinol. 2018 Oct 15;474:137-150.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Brock WA, et al. Radiosensitization of human and rodent cell lines by INO-1001, a novel inhibitor of poly(ADP-ribose) polymerase. Cancer Lett. 2004 Mar 18;205(2):155-60.

[2]. Radovits T, et al. Poly(ADP-ribose) polymerase inhibition improves endothelial dysfunction induced by reactive oxidant hydrogen peroxide in vitro. Eur J Pharmacol. 2007 Jun 14;564(1-3):158-66.

[3]. Szabo C, et al. Poly(ADP-ribose) polymerase inhibitors ameliorate nephropathy of type 2 diabetic Leprdb/db mice. Diabetes. 2006 Nov;55(11):3004-12.

[4]. Clark RS, et al. Local administration of the poly(ADP-ribose) polymerase inhibitor INO-1001 prevents NAD+ depletion and improves water maze performance after traumatic brain injury in mice. J Neurotrauma. 2007 Aug;24(8):1399-405.

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