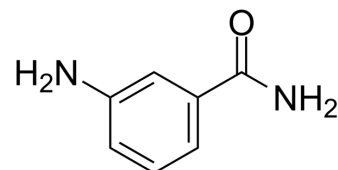


## 3-Aminobenzamide

Cat. No.:	HY-12022		
CAS No.:	3544-24-9		
Molecular Formula:	C <sub>7</sub> H <sub>8</sub> N <sub>2</sub> O		
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<sub>2</sub>O : ≥ 11.11 mg/mL (81.60 mM)  
 \* "≥" means soluble, but saturation unknown.

Concentration	Solvent	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<sub>50</sub> of appr 50 nM in CHO cells, and acts as a mediator of oxidant-induced myocyte dysfunction during reperfusion.

#### IC<sub>50</sub> & Target

PARP  
 50 nM (IC<sub>50</sub>)

#### 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<sub>2</sub>O<sub>2</sub> [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<sup>[3]</sup>. 3-Aminobenzamide (1.6 mg/kg via intracerebral injection) prevents NAD<sup>+</sup> depletion and improves water maze performance after controlled cortical impact (CCI) in mice<sup>[4]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## PROTOCOL

### Kinase Assay <sup>[1]</sup>

PARP activity is measured with a PARP Activity Assay Kit. This method measures relative PARP activity by determining the level of incorporation of <sup>3</sup>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.

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### Animal Administration <sup>[3]</sup>

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.

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## 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<sup>+</sup> depletion and improves water maze performance after traumatic brain injury in mice. *J Neurotrauma.* 2007 Aug;24(8):1399-405.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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