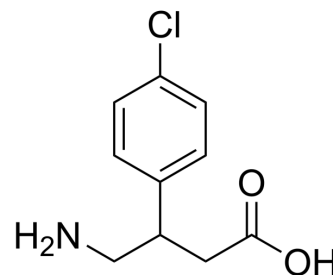


## Baclofen

<b>Cat. No.:</b>	HY-B0007		
<b>CAS No.:</b>	1134-47-0		
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>12</sub> ClNO <sub>2</sub>		
<b>Molecular Weight:</b>	213.66		
<b>Target:</b>	GABA Receptor		
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Neuronal Signaling		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

0.1 M HCL : 10 mg/mL (46.80 mM; Need ultrasonic)  
 DMSO : 4.81 mg/mL (22.51 mM; ultrasonic and warming and adjust pH to 4 with HCl and heat to 60°C)  
 H<sub>2</sub>O : 2 mg/mL (9.36 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	4.6803 mL	23.4017 mL	46.8033 mL
	5 mM	0.9361 mL	4.6803 mL	9.3607 mL
	10 mM	0.4680 mL	2.3402 mL	4.6803 mL

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

#### In Vivo

1. Add each solvent one by one: PBS  
 Solubility: 2.5 mg/mL (11.70 mM); Clear solution; Need ultrasonic and warming and heat to 60°C

### BIOLOGICAL ACTIVITY

#### Description

Baclofen, a lipophilic derivative of  $\gamma$ -aminobutyric acid (GABA), is an orally active, selective metabotropic GABA<sub>B</sub> receptor (GABA<sub>B</sub>R) agonist. Baclofen mimics the action of GABA and produces slow presynaptic inhibition through the GABA<sub>B</sub> receptor. Baclofen has high blood brain barrier penetrance. Baclofen has the potential for muscle spasticity research<sup>[1][2][3]</sup>.

#### In Vitro

Baclofen (1, 10  $\mu$ M; 24 h) causes markedly decreased lactate dehydrogenase (LDH) activity, indicating increased cell viability in wild-type or mutant huntingtin-expressing striatal cells (HD19 or HD43). Baclofen significantly increases chymotrypsin-like proteasome activity and cell viability were in the HD43 cells<sup>[3]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Baclofen (i.p.; 10  $\mu$ g/g; twice daily for 3 consecutive days) ameliorates motor deficits in YAC128 HD transgenic mice<sup>[3]</sup>.

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

Animal Model:	Wild type (WT) and mutant (MT) male YAC128 mice at 13-18 months of age <sup>[3]</sup>
Dosage:	10 µg/g
Administration:	IP; twice daily at 9:00 a.m. and 5:00 p.m., for 3 consecutive days; then single dose on the fourth day at 9:00 a.m
Result:	Ameliorated motor deficits in YAC128 HD transgenic mice. Increased proteasome activity and reduces neuronal intranuclear inclusions (NIIs) in YAC128 HD transgenic mice.

## CUSTOMER VALIDATION

- Cancer Res. 2023 Apr 14;CAN-22-3450.
- Life Sci. 2023 Sep 15;329:121984.
- FASEB J. 2020 Nov;34(11):14780-14798.
- J Ovarian Res. 2020 Oct 24;13(1):126.

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## REFERENCES

- [1]. Woori Kim, et al. Baclofen, a GABAB receptor agonist, enhances ubiquitin-proteasome system functioning and neuronal survival in Huntington's disease model mice. Biochem Biophys Res Commun. 2014 Jan 10;443(2):706-11.
- [2]. Bexis, S., et al., Baclofen prevents MDMA-induced rise in core body temperature in rats. Drug Alcohol Depend, 2004. 74(1): p. 89-96.
- [3]. Mehdi Farokhnia, et al. A deeper insight into how GABA-B receptor agonism via baclofen may affect alcohol seeking and consumption: lessons learned from a human laboratory investigation. Mol Psychiatry. 2018 Oct 31.

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

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