Baclofen hydrochloride

Cat. No.: HY-B0007C

CAS No.: 28311-31-1

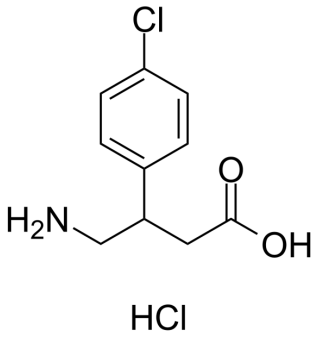
Molecular Formula: $C_{10}H_{13}Cl_2NO_2$

Molecular Weight: 250.12

Target: GABA Receptor

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Baclofen hydrochloride, a lipophilic derivative of γ-aminobutyric acid (GABA), is an orally active, selective metabotropic $GABA_B$ receptor ($GABA_BR$) agonist. Baclofen hydrochloride mimics the action of GABA and produces slow presynaptic inhibition through the $GABA_B$ receptor. Baclofen hydrochloride has high blood brain barrier penetrance. Baclofen hydrochloride has the potential for muscle spasticity research[1][2][3].

In Vitro

Baclofen (1, 10 μM; 24 h) hydrochloride 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[3].

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

In Vivo

Baclofen (i.p.; 10 μg/g; twice daily for 3 consecutive days) hydrochloride ameliorates motor deficits in YAC128 HD transgenic mice[3].

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Animal Model:	Wild type (WT) and mutant (MT) male YAC128 mice at 13-18 months of age[3]
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

- 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]. 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.

[3]. Bexis, S., et al., Baclofen prevents MDMA-induced rise in core body temperature in rats. Drug Alcohol Depend, 2004. 74(1): p. 89-96.

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