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# (R)-Baclofen

## **Product overview**

Name	(R)-Baclofen
Cat No	HB0952
Alternative names	STX 209
Biological action	Agonist
Purity	>98%
Description	Selective GABA <sub>B</sub> receptor agonist

### Images



# **Biological Data**

#### **Biological description**

**Application notes** 

Active enantiomer of (RS)-Baclofen. Selective GABA<sub>B</sub> receptor agonist. Decreases ethanol intake in addiction models. Shows anti-cataplexy actions and promotes sleep. Blood-brain barrier permeable. The GABAB<sub>B</sub> receptor agonist (R)–Baclofen is commonly used at concentrations of 1–50  $\mu$ M. It can be used to target presynaptic GABA<sub>B</sub> receptors to inhibit neurotransmitter release. At the Schaffer collateral pathway of the hippocampus, (R)–Baclofen from Hello Bio (applied at 10  $\mu$ M) led to a reversible reduction in presynaptic glutamate release This was demonstrated as a reduced EPSC amplitude and increase in the amplitude ratio of a 50 ms paired pulse stimulation (see Fig 1 above).

#### #Protocol 1: Assay evoked EPSCs (used for baclofen)

- Whole cell voltage clamp recordings of CA1 pyramidal neurons from the rat hippocampal brain slice.
- 50 ms paired EPSCs were evoked via stimulating electrode placed in the CA3 region to stimulate the Schaffer collateral pathway delivering two square (150  $\mu$ s) pulse with a 50 ms interval every 10 sec at an intensity that gave a reliable EPSC.
- Neurons were held at -60 mV (the reversal potential of GABA currents).
- Paired EPSCs were continually stimulated and recorded in response to applications of baclofen until a maximum effect was achieved at which point baclofen was washed out with control solution.
- EPSC amplitudes were taken from the amplitude of the first pulse and paired pulse ratios calculated by dividing the amplitude of pulse 2 by pulse 1 (P2/P1).

# **Solubility & Handling**

Storage instructions Solubility overview Important

Room temperature Soluble in water (20mM) and in DMSO (10mM) This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

# **Chemical Data**

Chemical name Molecular Weight	( <i>R</i> )-4-Amino-3-(4-chlorophenyl)butanoic acid 213.66	
Chemical structure		
Molecular Formula	C <sub>10</sub> H <sub>12</sub> CINO <sub>2</sub>	
CAS Number	69308-37-8	
PubChem identifier		
SMILES	C1=CC(=CC=C1[C@@H](CC(=O)O)CN)CI	
InChi	InChI=1S/C10H12CINO2/c11-9-3-1-7(2-4-9)8(6-12)5-10(13)14/h1-4,8H,5-6,12H2,(H,13,14)/t8-/m0/s 1	
InChiKey	KPYSYYIEGFHWSV-QMMMGPOBSA-N	
MDL number	MFCD01321057	
Appearance	White solid	

# **References**

Intra-nucleus accumbens shell injections of R(+)- and S(-)-baclofen bidirectionally alter binge-like ethanol, but not saccharin, intake in C57BI/6J mice. Kasten CR et al (2014) Behav Brain Res 272 PubMedID 25026094 Comparative stereostructure-activity studies on GABAA and GABAB receptor sites and GABA uptake using rat brain membrane preparations. Falch E et al (1986) J Neurochem 47(3) PubMedID 3016189

GABAB agonism promotes sleep and reduces cataplexy in murine narcolepsy.

Black SW et al (2014) J Neurosci 34(19) PubMedID 24806675