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# **DATASHEET**

(R)-Baclofen

#### **Product overview**

 Name
 (R)-Baclofen

 Cat No
 HB0952

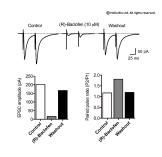
 Alternative names
 STX 209

 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  $GABA_B$  receptor agonist. Decreases ethanol intake in addiction models. Shows anti-cataplexy actions and promotes sleep. Blood-brain barrier permeable. The  $GABAB_B$  receptor agonist (R)-Baclofen is commonly used at concentrations of 1–50  $\mu$ M. It can be used to target presynaptic  $GABA_B$  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 µs) 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 Chemical structure (R)-4-Amino-3-(4-chlorophenyl)butanoic acid

213.66

H<sub>2</sub>N OH

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 C57Bl/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