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DATASHEET

Picrotoxin

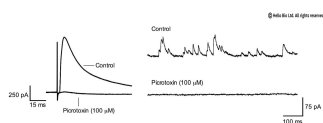
Product overview

Name	Picrotoxin
Cat No	HB0506
Alternative names	PTX
Biological action	Antagonist
Purity	>98%
Customer comments	Getting on well with <i>DHPG</i> & <i>picrotoxin</i> – they do what they're supposed to! Professor Bruno Frenguelli, University of Warwick, UK

Description

Reasonable price and good working! **Verified customer, Seoul National University**
Non-competitive GABA_A receptor antagonist

Images



Biological Data

Biological description

Non-competitive GABA_A receptor antagonist. Also a glycine receptor inhibitor ($IC_{50} = 2.7 \mu M$). Acts as a convulsant and CNS stimulant. Active *in vivo*.

Application notes

The GABA_A receptor antagonist Picrotoxin is commonly used to reduce the levels inhibition by blocking the actions of the neurotransmitter GABA. Picrotoxin from Hello Bio reduces both spontaneous inhibitory post synaptic currents (IPSC) and evoked IPSCs. It was effective at concentrations of 10 μM , with complete receptor blockade at 100 μM . For assay protocol, see #Protocol 1 in Application Notes below

#Protocol 1: Evoked and spontaneous inhibitory post synaptic currents (IPSCs)

- Whole cell voltage clamp recordings were obtained from layer V neurons of the mouse prelimbic cortex brain slice.
- A stimulating electrode was placed in layers II/III and IPSCs were evoked by a single square (150 μs) pulse every 10 sec at a stimulus intensity that gave a reliable IPSC.
- IPSCs were evoked at a range of neuron holding voltages to measure the reversal potential of the current to ensure it was GABAergic.
- Neurons were held at 0mV and IPSCs continuously stimulated and recorded in response to 5 min applications of varying concentrations of Gabazine until complete

receptor inhibition.

- Spontaneous IPSCs were recorded before and after addition of **Gabazine** by holding the neuron at 0mV and recording for 10 sec.
- All recordings for IPSCs were made in the presence of AMPAR antagonists.

Solubility & Handling

Storage instructions
Solubility overview
Important

Room temperature

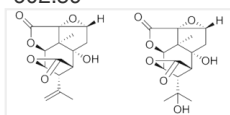
Soluble in DMSO (100mM) and in ethanol (50mM, gentle warming)

This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Molecular Weight
Chemical structure

602.59



Molecular Formula
CAS Number
PubChem identifier
SMILES

C₃₀H₃₄O₁₃

124-87-8

518601

CC(=C)C1C2C3C4C(C1C(=O)O2)(CC5C4(O5)C(=O)O3)O)C.CC12C3C4C(C(C1(CC5C2(O5)C(=O)O3)O)C(=O)O4)C(C)(C)O

InChi

InChI=1S/C15H18O7.C15H16O6/c1-12(2,18)6-7-10(16)20-8(6)9-13(3)14(7,19)4-5-15(13,22-5)11(17)21-9;1-5(2)7-8-11(16)19-9(7)10-13(3)14(8,18)4-6-15(13,21-6)12(17)20-10/h5-9,18-19H,4H2,1-3H3;6-10,18H,1,4H2,2-3H3

InChiKey

VJKUPQSHOVKBCO-UHFFFAOYSA-N

MDL number

MFCD00074824

References

Picrotoxin-like channel blockers of GABAA receptors.

Olsen RW (2006) Proc Natl Acad Sci U S A 103(16)

PubMedID

16606858

Mechanisms for picrotoxin block of alpha2 homomeric glycine receptors.

Wang DS *et al* (2006) J Biol Chem 281(7)

PubMedID

16344549

Picrotoxin blockade of invertebrate glutamate-gated chloride channels: subunit dependence and evidence for binding within the pore.

Etter A *et al* (1999) J Neurochem 72(1)

PubMedID

9886084