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# **DATASHEET**

SR 95531 hydrobromide (Gabazine)

### **Product overview**

Name SR 95531 hydrobromide (Gabazine)

Cat No HB0901

Alternative names Gabazine | GBZ
Biological action Antagonist
Purity >98%

**Customer comments** We regularly use Hello Bio Gabazine (SR 95531) in the lab. We especially like the formulation where

you only need to add 1ml of water to make a 10mM stock solution. Verified customer, The

**University of Newcastle** 

I am satisfied with the quality, quick delivery and follow-up of your product. Verified customer, Shimane University

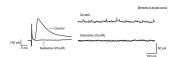
We used our first aliquot of SR95531 (Gabazine) last week. The experiment was a critical one for us and the SR95531 worked exactly as expected – 100% block of a GABAergic IPSP (inhibitory postsynaptic potential). Verified customer, University of Michigan

Good compound. This compound is routinely used in our lab to isolate AMPA and NMDA currents. So we are using it a lot every day. There are no complaints about it! **Verified customer, Karolinska** 

Institutet

**Description** Selective, competitive GABA<sub>A</sub> receptor antagonist

## **Images**





## **Biological Data**

#### **Biological description**

SR 95531 hydrobromide (Gabazine) is a selective and competitive GABA<sub>A</sub> receptor antagonist ( $K_i = 150 \text{ nM}$  for displacement of [ $^3$ H]-GABA from rat membranes).

SR 95531 (Gabazine) displaces GABA from the GABA $_A$ R agonist binding site to prevent receptor activation. It also acts as a negative allosteric inhibitor of channel opening to inhibit GABA $_A$  receptor activation by anaesthetic agents. It also displays low affinity glycine receptor inhibition.

SR 95531 (Gabazine) inhibits GABA-induced Cl- currents to reduce GABA-mediated synaptic inhibition.

SR 95531 additionally shows convulsive actions.

Gabazine (SR 95531) is commonly used to reduce levels of inhibition by antagonising GABAA receptors. It is commonly used at concentrations between 10 - 200 µM.

Gabazine (SR 95531) from Hello Bio blocks spontaneous inhibitory post synaptic currents (IPSC) and evoked IPSCs (see Fig 1 above). It was effective at 1 µM and completely blocked GABA<sub>A</sub> receptors at 20 μM.

#### #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

Solubility overview Storage instructions Soluble in water (25mM) and in DMSO (100mM)

Room temperature

Storage of solutions

Prepare and use solutions on the same day if possible. Store solutions at -20°C for up to one month if

storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.

Shipping Conditions

**Important** 

Stable for ambient temperature shipping. Follow storage instructions on receipt.

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

6-Imino-3-(4-methoxyphenyl)-1(6*H*)-pyridazinebutanoic acid hydrobromide

368.23 NH HBr

Molecular Formula C<sub>15</sub>H<sub>17</sub>N<sub>3</sub>O<sub>3</sub>.HBr 104104-50-9 **CAS Number PubChem identifier** 107895

**SMILES** COC1 = CC = C(C = C1)C2 = NN(C(=N)C = C2)CCCC(=O)O.Br

Source Synthetic

InChi InChI=1S/C15H17N3O3.BrH/c1-21-12-6-4-11(5-7-12)13-8-9-14(16)18(17-13)10-2-3-15(19)20;/h4-9,

16H,2-3,10H2,1H3,(H,19,20);1H

InChiKey GFZHNFOGCMEYTA-UHFFFAOYSA-N

MDL number MFCD00055135 **Appearance** White solid

## References

Biochemical characterization of the interaction of three pyridazinyl-GABA derivatives with the GABAA receptor site.

Heaulme M et al (1986) Brain Res 384(2) **PubMedID** 3022866

Sequential steps underlying neuronal plasticity induced by a transient exposure to gabazine.

Pegoraro S *et al* (2010) J Cell Physiol 222(3) **PubMedID**20027606

The kinetics of inhibition of rat recombinant heteromeric alpha1beta glycine receptors by the low-affinity antagonist SR-95531.

Beato M *et al* (2007) J Physiol 580(Pt 1) **PubMedID**17218350

The differential antagonism by bicuculline and SR95531 of pentobarbitone-induced currents in cultured hippocampal neurons.

Uchida I *et al* (1996) Eur J Pharmacol 307(1) **PubMedID** 8831109

Tonically activated GABAA receptors in hippocampal neurons are high-affinity, low-conductance sensors for extracellular GABA.

Yeung et al (2003) Mol Pharmacol 36(1) **PubMedID** 12488530