

# Scopolamine (hydrobromide)

Catalog No: tcsc2000



## Available Sizes

Size: 100mg

Size: 500mg



## Specifications

### CAS No:

114-49-8

### Formula:

$C_{17}H_{22}BrNO_4$

### Pathway:

Neuronal Signaling;GPCR/G Protein;Neuronal Signaling;GPCR/G Protein

### Target:

mAChR;mAChR;5-HT Receptor;5-HT Receptor

### Purity / Grade:

>98%

### Solubility:

DMSO :  $\geq 32$  mg/mL (83.28 mM)

### Alternative Names:

(-)-Scopolamine hydrobromide;Hyoscine hydrobromide;Scopine hydrobromide

### Observed Molecular Weight:

384.26

## Product Description

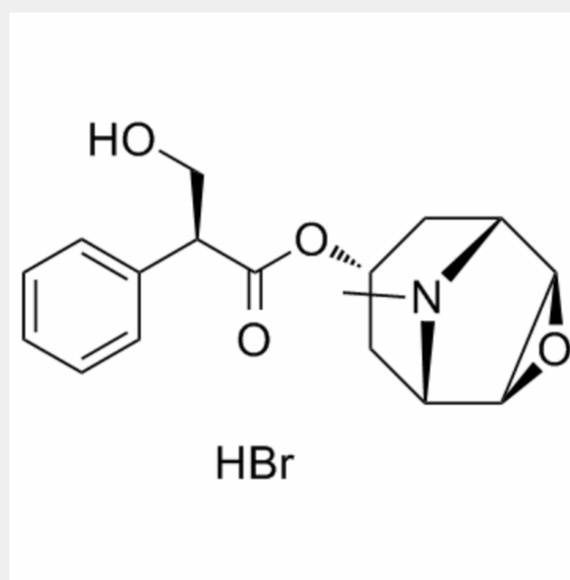
Scopolamine hydrobromide is a high affinity (nM) **muscarinic** antagonist. **5-HT<sub>3</sub>** receptor-responses are reversibly inhibited by Scopolamine with an **IC<sub>50</sub>** of 2.09  $\mu$ M.

IC50 & Target: IC50: 2.09  $\mu$ M (5-HT<sub>3</sub> receptor)<sup>[1]</sup>

mAChR<sup>[1]</sup>

**In Vitro:** Application of Scopolamine to oocytes expressing 5-HT<sub>3</sub> receptors does not elicit a response when applied alone, but causes a concentration-dependent inhibition of the response during a co-application of 2  $\mu$ M 5-HT. The pIC<sub>50</sub> value for Scopolamine is 5.68 $\pm$ 0.05 (IC<sub>50</sub>=2.09  $\mu$ M, n=6) with a Hill Slope of 1.06  $\pm$  0.05. This gave a K<sub>b</sub> of 3.23  $\mu$ M. The same concentration-dependent effect is also seen when Scopolamine is applied during the 5-HT application. To further test for a competitive binding at the 5-HT<sub>3</sub> receptor, the competition of unlabelled Scopolamine is measured with [<sup>3</sup>H]granisetron, an established high-affinity competitive antagonist at these receptors. Scopolamine displays concentration-dependent competition with 0.6 nM [<sup>3</sup>H]granisetron ( $\sim$ K<sub>d</sub>), yielding an average pK<sub>i</sub> of 5.17 $\pm$ 0.24 (K<sub>i</sub>=6.76  $\mu$ M, n=3)<sup>[1]</sup>.

**In Vivo:** In the histopathology study, there is no significant change in the histology of the brain. However, it is observed that there is a reduction in density of cells in the hippocampus of the control mice pretreated with Scopolamine who received only distilled water<sup>[2]</sup>. Scopolamine administration alone significantly increases the activity of Acetylcholinesterase enzyme (AChE) (7.98 $\pm$ 0.065; P1-42) (P[3]).



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!