

Scopolamine

Catalog No: tcsc6609



Available Sizes

Size: 100mg



Specifications

CAS No:

51-34-3

Formula:

$C_{17}H_{21}NO_4$

Pathway:

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

Target:

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

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

Hyoscine;Scopine (-)-tropate;Scopine tropate

Observed Molecular Weight:

303.35

Product Description

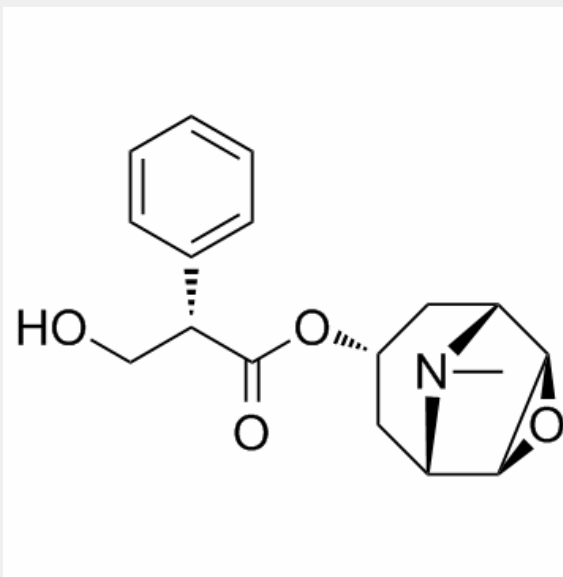
Scopolamine is a high affinity (nM) **muscarinic** antagonist. **5-HT₃** receptor-responses are reversibly inhibited by Scopolamine with an **IC₅₀** of 2.09 μM.

IC50 & Target: IC50: 2.09 μM (5-HT₃ receptor)^[1]

mAChR^[1]

In Vitro: Application of Scopolamine to oocytes expressing 5-HT₃ receptors does not elicit a response when applied alone, but causes a concentration-dependent inhibition of the response during a co-application of 2 μM 5-HT. The pIC₅₀ value for Scopolamine is 5.68±0.05 (IC₅₀=2.09 μM, n=6) with a Hill Slope of 1.06 ± 0.05. This gave a K_b of 3.23 μM. 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-HT₃ receptor, the competition of unlabelled Scopolamine is measured with [³H]granisetron, an established high-affinity competitive antagonist at these receptors. Scopolamine displays concentration-dependent competition with 0.6 nM [³H]granisetron (~K_d), yielding an average pK_i of 5.17±0.24 (K_i=6.76 μM, n=3)^[1].

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 ^[2]. Scopolamine administration alone significantly increases the activity of Acetylcholinesterase enzyme (AChE) (7.98±0.065; P1-42) (P[3].



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