

# Tiotropium (bromide hydrate)

Catalog No: tcsc2571



## Available Sizes

**Size:** 5mg

**Size:** 10mg

**Size:** 50mg



## Specifications

**CAS No:**

139404-48-1

**Formula:**

$C_{19}H_{24}BrNO_5S_2$

**Pathway:**

Neuronal Signaling;GPCR/G Protein

**Target:**

mAChR;mAChR

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Alternative Names:**

BA-679 BR hydrate

**Observed Molecular Weight:**

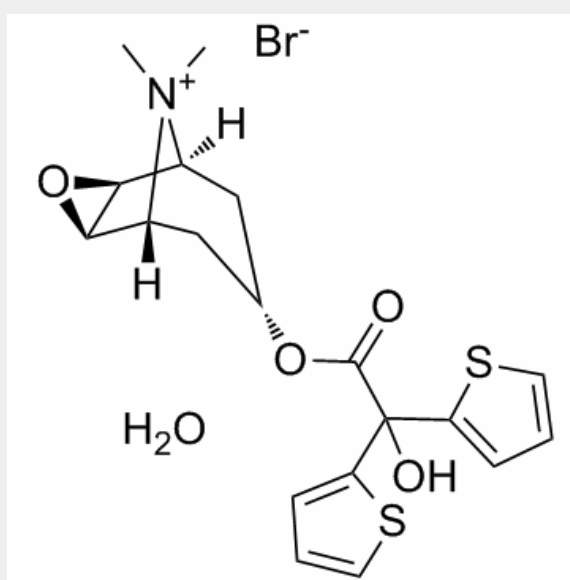
490.43

## Product Description

Tiotropium Bromide hydrate is an anticholinergic and bronchodilator and a muscarinic receptor antagonist.

Target: mAChR

Tiotropium bromide (Ba 679 BR) is a novel potent and long-lasting muscarinic antagonist that has been developed for the treatment of chronic obstructive airways disease (COPD). Binding studies with [3H]tiotropium bromide in human lung have confirmed that this is a potent muscarinic antagonist with equal affinity for M1-, M2- and M3-receptors and is approximately 10-fold more potent than ipratropium bromide. In vitro tiotropium bromide has a potent inhibitory effect against cholinergic nerve-induced contraction of guinea-pig and human airways, that has a slower onset than atropine or ipratropium bromide. tiotropium bromide dissociates slowly from M3-receptors (on airway smooth muscle) but rapidly from M2 autoreceptors (on cholinergic nerve terminals) [1]. Tiotropium bromide is a quaternary ammonium derivative that binds to muscarinic receptors. However, although tiotropium binds with high affinity to muscarinic receptors of M1-, M2- and M3-subtypes, it dissociates very slowly from M1- and M3-receptors but more rapidly from M2-receptors, thereby giving it a unique kinetic selectivity [2].



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