

Product Data Sheet

Product Name: Tiotropium Bromide

Cat. No.: GC12554

Chemical Properties

Cas. No. 136310-93-5

Chemical Name (1R,2R,4S,5S,7s)-7-(2-hydroxy-2,2-di(thiophen-2-yl)acetoxy)-9,9-dimethyl-3-oxa-9-azatricyclo[3.3.1.0^{2,4}]nonan-9-ium bromide

SMILES O=C(C(C1=C([H])C([H])=C([H])S1)(C2=C([H])C([H])=C([H])S2)O[H])O[C@@]3([H])C([H])([H])[C@]4([H])[N+](C([H])([H])[H])(C([H])([H])[H])[C@@](C3([H])[H])([H])[C@@]5([H])O[C@@]45[H].[Br-]

Formula C₁₉H₂₂BrNO₄S₂

M.Wt 472.42

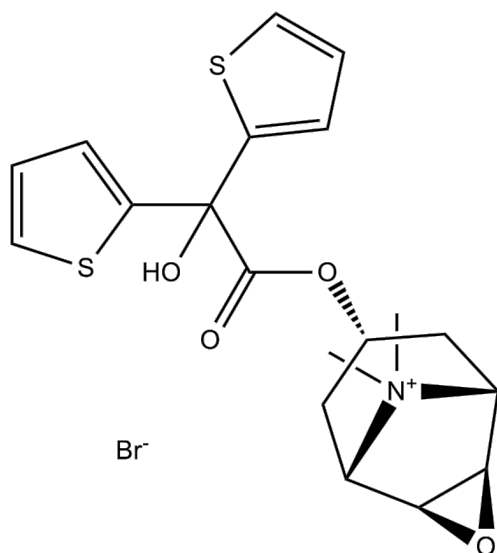
Solubility ≥ 23.62 mg/mL in DMSO, ≥ 33.07 mg/mL in Water with ultrasonic

Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Caution: Product has not been fully validated for medical applications. For research use only.

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Tiotropium Bromide (BA679 BR) is a muscarinic acetylcholine receptor (mAChR) antagonist that blocks the binding of the acetylcholine ligand and subsequent opening of the ligand-gated ion channel.

Tiotropium Bromide stops signaling between neurons and leads to muscle relaxation. Tiotropium Bromide is a long-acting, 24 hour, anticholinergic bronchodilator used in the management of chronic obstructive pulmonary disease. Tiotropium Bromide improves symptoms of chronic obstructive pulmonary disease complicated by chronic heart failure.

References:

- [1]. Barnes PJ. Tiotropium bromide. Expert Opin Investig Drugs. 2001 Apr;10(4):733-40.
- [2]. ZuWallack AR, ZuWallack RL. Tiotropium bromide, a new, once-daily inhaled anticholinergic bronchodilator for chronic-obstructive pulmonary disease. Expert Opin Pharmacother. 2004 Aug;5(8):1827-35.
- [3]. Lipson DA. Tiotropium bromide. Int J Chron Obstruct Pulmon Dis. 2006;1(2):107-14.
- [4]. Marmay AJ, Criner GJ. Tiotropium bromide for chronic obstructive pulmonary disease. Expert Rev Respir Med. 2009 Jun;3(3):211-20.
- [5]. Szmidt M. [The influence of treatment with formoterol, formoterol with tiotropium, formoterol with inhaled glucocorticosteroid and tiotropium on lung functions, tolerance of exercise and simple, morning everyday activities in patients with chronic obstructive pulmonary disease (COPD)]. Pneumonol Alergol Pol. 2012;80(3):255-62.

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