# Product Data Sheet

Product Name: Tarafenacin
Cat. No.: GC13618

## Chemical Properties

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|---|---|---|---|
| Cas. No. | 385367-47-5 | | |
| Chemical Name | [(3R)-1-azabicyclo[2.2.2]octan-3-yl] N-(3-fluorophenyl)-N-[(3,4,5-trifluorophenyl)methyl]carbamate | | |
| SMILES | C1CN2CCC1C(C2)OC(=O)N(CC3=CC(=C(C(=C3)F)F)F)C4=CC(=CC=C4)F | | |
| Formula | $C_{21}H_{20}F_4N_2O_2$ | M.Wt | 408.39 |
| Solubility | Soluble in DMSO | Storage | Store at -20°C |
| General tips | For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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 | Tarafenacin | | |

## Background

Tarafenacin is a selective antagonist of M3 muscarinic receptor with Ki value of 0.19nM [1].

Tarafenacin is a novel quinuclidine derivative and is developed as an antimuscarinic drug for treatment of overactive bladder. It shows a 203-fold selectivity with M3 receptor over M2 receptor. Tarafenacin reduces the maximum carbachol response at concentrations of 10nM and 100nM in mouse isolated bladder. In mouse atrial preparations, tarafenacin slightly attenuates the effects on heart rate caused by carbachol. Tarafenacin shows a 199-fold urinary affinity against cardiac affinity. It is a highly potent antagonist in the bladder and lacks any relevant effect in atria at the same range of concentrations. In the guinea pig model, tarafenacin significantly changes the bladder contraction amplitude. It inhibits 25% of spontaneous bladder contractions at dose of 17.1nmol/kg [1].

References:


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[1] Salcedo C, Davalillo S, Cabellos J, et al. In vivo and in vitro pharmacological characterization of SVT-40776, a novel M3 muscarinic receptor antagonist, for the treatment of overactive bladder. British journal of pharmacology, 2009, 156(5): 807-817.


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