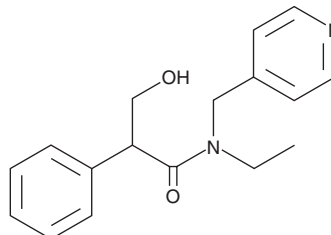


# PRODUCT INFORMATION



## Tropicamide Item No. 16606

**CAS Registry No.:** 1508-75-4  
**Formal Name:** N-ethyl- $\alpha$ -(hydroxymethyl)-  
N-(4-pyridinylmethyl)-  
benzeneacetamide  
**Synonym:** Ro 1-7683  
**MF:** C<sub>17</sub>H<sub>20</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 284.4  
**Purity:**  $\geq 98\%$   
**UV/Vis.:**  $\lambda_{\text{max}}$ : 256 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Tropicamide is supplied as a crystalline solid. A stock solution may be made by dissolving the tropicamide in the solvent of choice, which should be purged with an inert gas. Tropicamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of tropicamide in these solvents is approximately 30 mg/ml.

Tropicamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tropicamide should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Tropicamide has a solubility of approximately 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Muscarinic receptors are G protein-coupled acetylcholine receptors that play diverse roles. Five subtypes (M<sub>1-5</sub>) have been identified, which preferentially couple to various effector systems based on their G protein interaction.<sup>1,2</sup> Tropicamide is a muscarinic acetylcholine receptor (mAChR) antagonist (pK<sub>i</sub> = 7.2 in chicken heart) that displays 3-fold selectivity for M<sub>4</sub>.<sup>1,3,4</sup> When applied as eye drops, it produces temporary mydriasis (pupil dilation; EC<sub>50</sub> = 6  $\mu$ g/ml) and cycloplegia (ciliary muscle paralysis; EC<sub>50</sub> = 25  $\mu$ g/ml).<sup>5</sup> Tropicamide has been used to probe mAChR activity in a mouse model of fragile X syndrome.<sup>6</sup>

### References

1. Lazareno, S., Buckley, N.J., and Roberts, F.F. *Mol. Pharmacol.* **38**(6), 805-815 (1990).
2. Liao, C.F., Themmen, A.P.N., Joho, R., et al. *J. Biol. Chem.* **264**(13), 7328-7337 (1989).
3. Lazareno, S. and Birdsall, N.J.M. *Br. J. Pharmacol.* **109**(4), 1120-1127 (1993).
4. Hernández, M., Símonsén, U., Prieto, D., et al. *Br. J. Pharmacol.* **110**(4), 1413-1420 (1993).
5. Smith, S.E. *Br. J. Clin. Pharmacol.* **1**(1), 37-40 (1974).
6. Veeraragavan, S., Bui, N., Perkins, J.R., et al. *Behav. Neurosci.* **125**(5), 783-790 (2011).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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