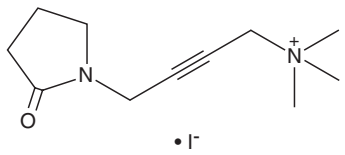
PRODUCT INFORMATION

Oxotremorine M (iodide)

Item No. 20847

CAS Registry No.:	3854-04-4
Formal Name:	N,N,N-trimethyl-4-(2-oxo-1-pyrrolidinyl)-2-butyn-1-aminium, monoiodide
MF:	$C_{11}H_{19}N_2O \bullet I$
FW:	322.2
Purity:	≥98%
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



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

Laboratory Procedures

Oxotremorine M (iodide) is supplied as a solid. A stock solution may be made by dissolving the oxotremorine M (iodide) in the solvent of choice, which should be purged with an inert gas. Oxotremorine M (iodide) is soluble in the organic solvent DMSO.

Description

Oxotremorine M is a non-selective muscarinic (M) acetylcholine receptor agonist that induces phosphoinositide hydrolysis in mouse ileum isolated from wild-type, M_2, M_3, and M_2/M_3 knockout mice (EC_{50}s = 0.36, 0.52, 1.62, and 1.48 µM, respectively).[1] It also increases M_4-induced inhibition of calcium currents in NG108-15 mouse neuroblastoma X rat glioma hybrid cells (EC_{50} = 0.14 µM).[2] Oxotremorine M inhibits KCNQ2/3 potassium currents in *Xenopus* oocytes expressing M_1 receptors and KCNQ2/3 potassium channels (IC_{50} = 1.1 µM).[3] It also directly inhibits KCNQ2/3 potassium channels, decreasing KCNQ2/3 potassium currents in *Xenopus* oocytes lacking muscarinic receptors in a dose-dependent manner.

References

1. Tran, J.A., Matsui, M., and Ehlert, F.J. Differential coupling of muscarinic M_1, M_2, and M_3 receptors to phosphoinositide hydrolysis in urinary bladder and longitudinal muscle of the ileum of the mouse. *J. Pharmacol. Exp. Ther.* **318(2)**, 649-656 (2006).
2. Caulfield, M.P., and Brown, D.A. Pharmacology of the putative M_4 muscarinic receptor mediating Ca-current inhibition in neuroblastoma x glioma hybrid (NG 108-15) cells. *Br. J. Pharmacol.* **104(1)**, 39-44 (1991).
3. Zwart, R., Reed, H., Clarke, S., *et al.* A novel muscarinic receptor-independent mechanism of KCNQ2/3 potassium channel blockade by Oxotremorine-M. *Eur. J. Pharmacol.* **791**, 221-228 (2016).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM