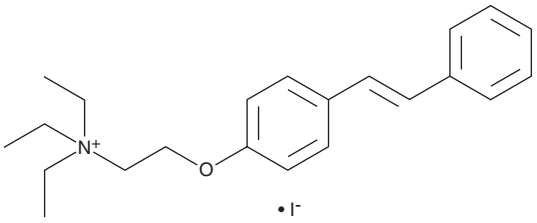
PRODUCT INFORMATION

MG624

Item No. 24298

CAS Registry No.:	77257-42-2
Formal Name:	N,N,N-triethyl-2-[4-[(1E)-2-phenylethenyl] phenoxy]-ethanaminium, monoiodide
MF:	$C_{22}H_{30}NO \bullet I$
FW:	451.4
Purity:	≥95%
UV/Vis.:	λ_{max}: 204, 224, 302 nm
Supplied as:	A crystalline 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

MG624 is supplied as a crystalline solid. A stock solution may be made by dissolving the MG624 in the solvent of choice, which should be purged with an inert gas. MG624 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of MG624 in DMSO and DMF is approximately 20 mg/ml and approximately 10 mM in ethanol.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of MG624 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of MG624 in PBS (pH 7.2) is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

MG624 is an antagonist of neuronal nicotinic acetylcholine receptors (nAChRs; K_i = 0.055 µM in neuronal chick optic lobe membranes).[1] It is selective for neuronal nAChRs over muscle-type AChRs (K_i = 70 µM in TE671 cells that express muscle-type AChRs). MG624 inhibits currents evoked by acetylcholine in *Xenopus* oocytes expressing chick α7 subunit-containing nAChRs (IC_{50} = 94 nM). It is selective for α7 subunit-containing nAChRs over α6, β2, and β4 subunit-containing nAChRs (K_is = 4.52, 12, and 9.2 µM, respectively).[2] It selectively decreases vagus nerve stimulation-induced contractions of isolated guinea pig vagus nerve-stomach preparations (EC_{50} = 49.4 µM) over isolated rat phrenic nerve-hemidiaphragm preparations (EC_{50} = 486 µM). MG624 decreases protein levels of early growth response gene 1 (Egr-1) induced by nicotine in human microvascular endothelial cells of the lung (HMEC-Ls).[3] It also decreases proliferation of HMEC-Ls and inhibits angiogenesis *in vitro* and *ex vivo* as well as in an H69 small cell lung cancer (SCLC) mouse xenograft model concomitant with a reduction in tumor growth when administered in the diet at a dose of approximately 10 mg/kg per day.

References

1. Gotti, C., Balestra, B., Morretti, M., *et al.* 4-Oxystilbene compounds are selective ligands for neuronal nicotinic αBungarotoxin receptors. *Br. J. Pharmacol.* **124(6)**, 1197-1206 (1998).
2. Vailati, S., Moretti, M., Longhi, R., *et al.* Developmental expression of heteromeric nicotinic receptor subtypes in chick retina. *Mol. Pharmacol.* **63(6)**, 1329-1337 (2003).
3. Brown, K.C., Lau, J.K., Dom, A.M., *et al.* MG624, an α7-nAChR antagonist, inhibits angiogenesis *via* the Egr-1/FGF2 pathway. *Angiogenesis* **15(1)**, 99-114 (2012).

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