Product Data Sheet

Product Name: Benzoquinonium dibromide
Cat. No.: GC10009

Chemical Properties

Cas. No.	311-09-1		
Chemical Name	3,3'-((3,6-dioxocyclohexa-1,4-diene-1,4-diyl)bis(azanediyl))bis(N-benzyl-N,N-diethylpropan-1-aminium) bromide		
SMILES	O=C1C(NCCC[N+](CC)(CC)CC2=CC=CC=C2)=CC(C(NCCC[N+](CC)(CC)CC3=CC=CC=C3)=C1)=O.[Br-].[Br-]		
Formula	$C_{34}H_{50}Br_2N_4O_2$	M.Wt	706.6
Solubility	<70.66mg/ml in DMSO	Storage	Store at RT
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	Benzoquinonium dibromide		

Background

Benzoquinonium Dibromide (BZQ) is an inhibitor of acetylcholine receptor (AChR) and ganglion. BZQ activates nicotinic single channels but blocks open channels at the neuronal AChRs.
AChR is an integral membrane protein that responds to the binding of acetylcholine, a neurotransmitter. Nicotinic acetylcholine receptor (nAChR) are particularly responsive to nicotine and is a Na+ and K+ channel.
The effects of BZQ on α-BGT sensitive neuronal nAChRs were evaluated on outside-out patches excised from fetal rat hippocampal neurons cultured for 11 to 35 days and found that BZQ (0.1-10 μM) could activate single-channel currents. BZQ was also able to activate various channel conductance states. The two most frequently encountered conductance states activated by BZQ were 43 ± 3.3 pS and 30 ± 4.2 p5. In frog muscle fibers, BZQ is an open-channel blocker of the nAChR and also activates single-channel currents that are not blocked by a-BGT.

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References:
[1]. Pereira EF, Reinhardt-Maelicke S, Schrattenholz A, et al. Identification and functional characterization of a new agonist site on nicotinic acetylcholine receptors of cultured hippocampal neurons. J Pharmacol Exp Ther, 1993, 265(3): 1474-1491.

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