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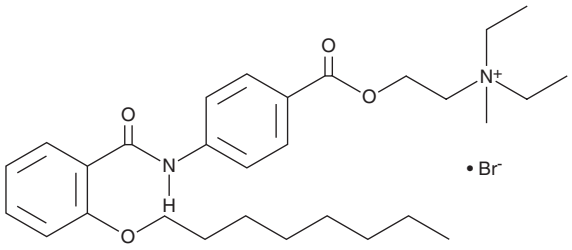
PRODUCT INFORMATION

Otilonium (bromide)

Item No. 29907

CAS Registry No.:	26095-59-0
Formal Name:	N,N-diethyl-N-methyl-2-[[4-[[2-(octyloxy)benzoyl]amino]benzoyl]oxy]-ethanaminium, monobromide
Synonym:	Octylonium
MF:	$C_{29}H_{43}N_2O_4$ • Br
FW:	563.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 292 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

Otilonium (bromide) is supplied as a crystalline solid. A stock solution may be made by dissolving the otilonium (bromide) in the solvent of choice, which should be purged with an inert gas. Otilonium (bromide) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of otilonium (bromide) in these solvents is approximately 10, 25, and 20 mg/ml, respectively.

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 otilonium (bromide) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of otilonium (bromide) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Otilonium is an inhibitor of L-type (IC_{50} = 2.3 µM) and T-type calcium channels (IC_{50}s = 0.8, 1.1, and 0.4 µM for $Ca_v3.1$, $Ca_v3.2$, and $Ca_v3.3$, respectively).[1,2] It is also an antagonist of muscarinic acetylcholine receptors (mAChRs; IC_{50}s = 0.054, 0.4, 0.222, and 0.156 µM for M_1, M_2, M_4, and M_5 muscarinic receptors, respectively) and the platelet activating factor (PAF) receptor (IC_{50} = 0.0552 µM).[3] Otilonium inhibits the inward calcium current in isolated rat colonic smooth muscle cells (EC_{50} = 885 nM), an effect that can be blocked by the L-type calcium channel inhibitor nifedipine (Item No. 11106).[1] It inhibits contractions induced by the muscarinic acetylcholine receptor (mAChR) agonist methacholine in isolated circular muscle of the guinea pig proximal colon (IC_{50} = 3.7 µM).[4] Otilonium (4 mg/kg) decreases fecal excretion and wet dog shakes and increases the tail withdrawal latency in the tail-flick test in a rat model of opioid withdrawal syndrome induced by morphine and naloxone.[5]

References

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2. Strege, P.R., Sha, L., Beyder, A., *et al. Am. J. Physiol. Gastrointest. Liver Physiol.* **298(5)**, G706-G713 (2010).
3. Evangelista, S., Giachetti, A., Chapelain, B., *et al. Pharmacol. Res.* **38(2)**, 111-117 (1998).
4. Santicioli, P., Zagorodnyuk, V., Renzetti, A.R., *et al. Naunyn-Schmiedebergs Arch. Pharmacol.* **359(5)**, 420-427 (1999).
5. Pinelli, A., Trivulzio, S., and Vignati, S. *Toxicology* **122(1-2)**, 23-37 (1997).

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