

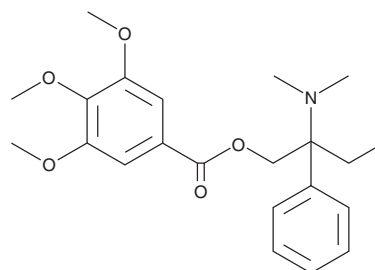
PRODUCT INFORMATION



Trimebutine

Item No. 31574

CAS Registry No.: 39133-31-8
Formal Name: 3,4,5-trimethoxy-benzoic acid,
2-(dimethylamino)-2-phenylbutyl ester
Synonym: (±)-Trimebutine
MF: C₂₂H₂₉NO₅
FW: 387.5
Purity: ≥98%
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

Trimebutine is supplied as a crystalline solid. A stock solution may be made by dissolving the trimebutine in the solvent of choice, which should be purged with an inert gas. Trimebutine is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of trimebutine in these solvents is approximately 1 and 30 mg/ml, respectively.

Trimebutine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, trimebutine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Trimebutine has a solubility of approximately 0.11 mg/ml in a 1:8 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Trimebutine is an opioid receptor agonist.¹⁻³ It binds to μ -, δ -, and κ -opioid receptors with K_i values of 0.34, 0.5, and 0.58 μ M, respectively, in canine myenteric plexus synaptosomes.² Trimebutine inhibits twitch contraction and acetylcholine (ACh) release induced by low-frequency electrical stimulation in isolated guinea pig longitudinal muscle with myenteric plexus (LM-MP; EC₅₀s = 0.274 and 0.215 μ M, respectively), effects that are inhibited by the opioid receptor antagonists naloxone and MR2266.³ It increases twitch contraction and ACh release induced by high-frequency electrical stimulation in isolated guinea pig LM-MP when used at concentrations of 1 μ M or less, but inhibits these effects at 10 μ M or more. Trimebutine (30, 100, and 300 μ M) decreases the amplitude and frequency of spontaneous contractions in isolated guinea pig colonic smooth muscle strips.⁴ It also inhibits large conductance calcium-activated potassium (BK_{Ca}) and L-type calcium currents in colonic smooth muscle cells in a concentration-dependent manner.

References

1. Delvaux, M. and Wingate, D. Trimebutine: Mechanism of action, effects on gastrointestinal function and clinical results. *J. Int. Med. Res.* **25(5)**, 225-246 (1997).
2. Allescher, H.D., Ahmad, S. and Daniel, E.E. Interaction of trimebutine and Jo-1196 (fedotozine) with opioid receptors in the canine ileum. *J. Pharmacol. Exp. Ther.* **257(2)**, 836-842 (1991).
3. Taniyama, K., Sano, I., Taniyama, S., et al. Dual effect of trimebutine on contractility of the guinea pig ileum via the opioid receptors. *Gastroenterology* **101(6)**, 1579-1587 (1991).
4. Tan, W., Zhang, H., Luo, H.-S., et al. Effects of trimebutine maleate on colonic motility through Ca²⁺-activated K⁺ channels and L-type Ca²⁺ channels. *Arch. Pharm. Res.* **34(6)**, 979-985 (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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