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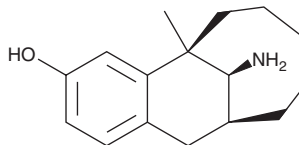
PRODUCT INFORMATION



Dezocine

Item No. 34093

CAS Registry No.: 53648-55-8
Formal Name: (5R,11S,13S)-amino-5,6,7,8,9,10,11,12-octahydro-5-methyl-5,11-methanobenzocyclodecen-3-ol
Synonym: Wy 16225
MF: C₁₆H₂₃NO
FW: 245.4
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Dezocine is supplied as a solid. A stock solution may be made by dissolving the dezocine in the solvent of choice, which should be purged with an inert gas. Dezocine is slightly soluble in DMSO and methanol.

Description

Dezocine is a partial agonist of the μ - and κ -opioid receptors.¹ It is selective for μ - and κ -opioid receptors (K_{iS} = 1.46 and 22.01 nM, respectively) over the δ -opioid receptor (K_i = 398.6 nM). Dezocine inhibits the norepinephrine transporter (NET) and serotonin transporter (SERT) with K_i values of 0.001 and 109 nM, respectively.² It stimulates [³⁵S]GTP γ S binding to CHO membranes expressing the human μ - and κ -opioid receptors with E_{max} values of 45.8 and 33.6% compared to the μ - and κ -agonists DAMGO and U50,488 H, respectively, when used at a concentration of 10 μ M.¹ It has antinociceptive effects in mice in the acetic acid abdominal constriction test (ED_{50} = 0.02 mg/kg) and the formalin test (ED_{50S} = 0.4 mg/kg for both phases).¹ Dezocine (10 mg/kg) increases the latency to tail withdrawal in the tail-flick test in rats.³ It also decreases the number of lung metastases in a 4T1 murine mammary cancer model when administered at doses ranging from 0.75 to 2 mg/kg.⁴ Formulations containing dezocine have been used in the treatment of post-operative pain.

References

1. Wang, Y.-H., Chai, J.-R., Xu, X.-J., *et al.* Pharmacological characterization of dezocine, a potent analgesic acting as a κ partial agonist and μ partial agonist. *Sci. Rep.* **8(1)**, 14087 (2018).
2. Liu, R., Huang, X.-P., Yeliseev, A., *et al.* Novel molecular targets of dezocine and their clinical implications. *Anesthesiology* **120(3)**, 714-723 (2014).
3. Morgan, D., Cook, C.D., Smith, M.A., *et al.* An examination of the interactions between the antinociceptive effects of morphine and various mu-opioids: the role of intrinsic efficacy and stimulus intensity. *Anesth. Analg.* **88(2)**, 407-413 (1999).
4. Song, Q., Liu, G., Liu, D., *et al.* Dezocine promotes T lymphocyte activation and inhibits tumor metastasis after surgery in a mouse model. *Invest New Drugs* **38(5)**, 1342-1349 (2020).

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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