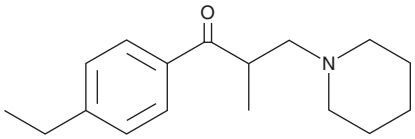
PRODUCT INFORMATION

Eperisone

Item No. 46311

CAS Registry No.: 64840-90-0
Formal Name: 1-(4-ethylphenyl)-2-methyl-3-(1-piperidinyl)-1-propanone, monohydrochloride
Synonyms: E-0646
MF: $C_{17}H_{25}NO$
FW: 259.4
Purity: ≥98%
Supplied as: A neat oil
Storage: 20°C
Stability: ≥4 years



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

Laboratory Procedures

Eperisone is supplied as a neat oil. A stock solution may be made by dissolving the eperisone in the solvent of choice, which should be purged with an inert gas. Eperisone is soluble (≥10 mg/ml) in DMSO and sparingly soluble (1-10 mg/ml) 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 eperisone can be prepared by directly dissolving the neat oil in aqueous buffers. Eperisone is sparingly soluble (1-10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

Eperisone is an antagonist of the purinergic $P2X_7$ receptor (IC_{50} = 12.59 nM for the human receptor), an antispasmodic agent, and a muscle relaxant.[1-3] It is selective for the $P2X_7$ receptor over the $P2X_{1-5}$ receptors (IC_{50}s = >10,000, >10,000, 7,158, >10,000, and >10,000 nM, respectively).[1] Eperisone also inhibits step depolarization-evoked peak sodium currents in a whole-cell patch-clamp assay using dorsal root ganglion (DRG) neurons (IC_{50} = 250 µM) and step depolarization-evoked calcium currents by 36% in a whole-cell patch-clamp assay using DRG neurons at 320 µM.[4] It reduces contractions induced by potassium or serotonin (5-HT; Item No. 14332) in guinea pig basilar artery rings at 10 and 50 µM.[2] Eperisone (10 mg/kg) inhibits dorsal root stimulation-induced ventral root reflexes in spinal rats.[4] It also decreases collagen levels and total and tissue elastance and increases forced vital capacity in a mouse model of pulmonary fibrosis.[3] Formulations containing eperisone have been used in the treatment of cervical syndrome, shoulder periarthritis, low back pain, and spastic paralysis but have been associated with immediate hypersensitivity and anaphylaxis.

References

1. Okada, M. and Nose, T. *Chem. Pharm. Bull. (Tokyo)* **72(3)**, 345-348 (2024).
2. Fujioka, M. and Kuriyama, H. *J. Pharmacol. Exp. Ther.* **235(3)**, 757-763 (1985).
3. Tanaka, K.I., Shimoda, M., Sugizaki, T., *et al. Cell Death Discov.* **8(1)**, 52 (2022).
4. Kocsis, P., Farkas, S., Fodor, L., *et al. J. Pharmacol. Exp. Ther.* **315(3)**, 1237-1246 (2005).

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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