3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Zopiclone

Product Number **Z 4900**
Store at Room Temperature

Product Description
Molecular Formula: $C_{17}H_{17}ClN_6O_3$
Molecular Weight: 388.8
CAS Number: 43200-80-2
Melting Point: 178 °C
Synonyms: 4-methyl-1-piperazinecarboxylic acid 6-(5-chloro-2-pyridinyl)-6,7-dihydro-7-oxo-5H-pyrrolo[3,4-b]pyrazin-5-yl ester, 6-(5-chloropyrid-2-yl)-5-(4-netgtkouoerazub-1-yl)carbonyloxy-7-oxo-6,7-dihydro-5H-pyrrolo[3,4-b]pyrazine[1], Imovane[1]

Zopiclone is a cyclopyrrone compound that has been reported to possess hypnotic, muscle relaxant, and anticonvulsant properties analogous to benzodiazepine compounds such as diazepam. Zopiclone is understood to be active via the mediation of aminobutyric acid (GABA) activity in the brain, by binding to the benzodiazepine receptor component of the GABA receptor complex, but at a different site than benzodiazepines.[1,2]

Zopiclone has been used to study GABA response in cultured mouse neurons.[3] A study of sleep disturbance in rats in different environments utilized various short-acting hypnotic compounds, including zopiclone.[4] An investigation of the stereoselective distribution and stereoconversion of the zopiclone enantiomers in rat plasma and brain tissue has been reported.[5]

An HPLC method for the determination of zopiclone in plasma has been published.[6] A protocol that combines GC with a nitrogen-phosphorus detector for analysis of zopiclone in plasma has been reported.[7] A report has described the solid-state separation of the enantiomers of zopiclone dihydrate into a racemic mixture by heat treatment.[8]

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in ethanol (10 mg/ml), yielding a clear, colorless to faint yellow solution.

References
1. The Merck Index, 12th ed., Entry# 10324.
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3. De Deyn, P. P., and Macdonald, R. L., Effects of non-sedative anxiolytic drugs on responses to GABA and on diazepam-induced enhancement of these responses on mouse neurones in cell culture. Br. J. Pharmacol., **95(1)**, 109-120 (1988).
4. Shinomiya, K., et al., Effects of short-acting hypnotics on sleep latency in rats placed on grid suspended over water. Eur. J. Pharmacol., **460(2-3)**, 139-144 (2003).
5. Fernandez, C., et al., Stereoselective distribution and stereoconversion of zopiclone enantiomers in plasma and brain tissues in rats. J. Pharm. Pharmacol., **54(3)**, 335-340 (2002).
6. Gebauer, M. G., and Alderman, C. P., Validation of a high-performance liquid chromatographic method for the enantiospecific quantitation of zopiclone in plasma. Biomed. Chromatogr., **16(4)**, 241-246 (2002).

7. Stanke, F., et al., Simultaneous determination of zolpidem and zopiclone in human plasma by gas chromatography-nitrogen-phosphorus detection. J. Chromatogr. B Biomed. Appl., **675(1)**, 43-51 (1996).

8. Shankland, N., et al., Structural transformations in zopiclone. Chem. Commun. (Camb)., **21**, 2204-2205 (2001).

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