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Product Information

Ifenprodil tartrate salt

Product Number **I 2892**
Store at Room Temperature

Product Description

Molecular Formula: $(C_{21}H_{27}NO_2)_2 \cdot C_4H_6O_6$

Molecular Weight: 801.0

CAS Number: 23210-58-4

Melting Point: 178-180 °C¹

Synonyms: α -(4-hydroxyethyl)- β -methyl-4-(phenylmethyl)-1-piperidineethanol tartrate; 4-benzyl- α -(p-hydroxyphenyl)- β -methyl-1-piperidineethanol tartrate; 2-(4-benzylpiperidino)-1-(4-hydroxyphenyl)-1-propanol tartrate¹

Ifenprodil is a piperidine derivative with α -adrenoceptor blocking capabilities that is used as a vasodilator.^{1,2} It is an N-methyl-D-aspartate (NMDA) receptor antagonist with selective targeting of receptors that contain the NR2B subunit.³ A review of the use of ifenprodil to investigate NMDA receptor subtypes, their properties, and their regulation have been published.^{3,4}

Ifenprodil (3 μ M) has been used in cultured rat neocortical neurons to probe regulation of NMDA receptor subunit expression.⁵ The effect of ifenprodil (15 μ M) on the NMDA-mediated stimulation of Na^+ - K^+ - $2Cl^-$ co-transporter expression in cultured rat cortical neurons has been investigated.⁶ Ifenprodil has been demonstrated to enhance NMDA-induced current in rat brain slices.⁷

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), with heat as needed, yielding a clear, colorless solution. It is also soluble in water (1 mg/ml) with sonication. This product is very slightly soluble in acetone or chloroform, and essentially insoluble in ether.¹

References

1. The Merck Index, 12th ed., Entry# 4936.
2. Martindale The Extra Pharmacopoeia, 31st ed., Reynolds, J. E. F., ed., Royal Pharmaceutical Society (London, England: 1996), p. 891.
3. Williams, K., Ifenprodil, a novel NMDA receptor antagonist: site and mechanism of action. *Curr. Drug Targets*, **2(3)**, 285-298 (2001).
4. Chizh, B. A., et al., NMDA receptor antagonists as analgesics: focus on the NR2B subtype. *Trends Pharmacol. Sci.*, **22(12)**, 636-642 (2001).
5. Hoffmann, H., et al., Synaptic activity-dependent developmental regulation of NMDA receptor subunit expression in cultured neocortical neurons. *J. Neurochem.*, **75(4)**, 1590-1599 (2000).
6. Sun, D., and Murali, S. G., Na^+ - K^+ - $2Cl^-$ cotransporter in immature cortical neurons: A role in intracellular Cl^- regulation. *J. Neurophysiol.*, **81(4)**, 1939-1948 (1999).
7. Zhang, X. X., et al., Enhancement of NMDA-induced current by the putative NR2B selective antagonist ifenprodil. *Synapse*, **37(1)**, 56-63 (2000).

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