PRODUCT INFORMATION



Dimebolin (hydrochloride)

Item No. 10011349

CAS Registry No.:	97657-92-6	
Formal Name:	2,3,4,5-tetrahydro-2,8-dimethyl-5-[2-(6-	
	methyl-3-pyridinyl)ethyl]-1H-pyrido[4,3-b]	N N
	indole, dihydrochloride	
Synonyms:	Dimebon, Latrepirdine	
MF:	$C_{21}H_{25}N_3 \bullet 2HCI$	
FW:	392.4	
Purity:	≥98%	• 2HCI
UV/Vis.:	λ _{max} : 224, 270 nm	
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

Dimebolin (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the dimebolin (hydrochloride) in the solvent of choice. Dimebolin (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of dimebolin (hydrochloride) in ethanol, DMSO, and DMF is approximately 3, 10, and 1 mg/ml, respectively.

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 dimebolin (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of dimebolin (hydrochloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Dimebolin is a neuroprotective agent.¹⁻³ It binds to histamine H_1 and H_2 receptors (IC₅₀s = 3.8 and 287 nM, respectively), as well as α_{1A}^{-} , α_{1B}^{-} , α_{1D}^{-} , and α_{2A}^{-} -adrenergic receptors (ARs), imidazoline I_2 receptors, and the serotonin (5-HT) receptor subtypes 5-HT_{2A}, 5-HT_{2C}, 5-HT₆, and 5-HT₇ $(\bar{K}_{is} = 8-313 \text{ nM})$.⁴ It also inhibits NMDA-evoked currents and voltage-gated calcium channels in mouse primary striatal neurons (IC₅₀s = 10 and 50 μ M, respectively).¹ Dimebolin (50 μ M) inhibits glutamate-induced apoptosis in primary striatal neurons derived from the YAC128 transgenic mouse model of Huntington's disease. It inhibits cell death induced by amyloid- β (25-35) (Item No. 24155) in cerebellar granule cells when used at a concentration of 25 μ M.² Dimebolin (1 mg/kg) inhibits decreases in two-way active avoidance reaction (TWAA) acquisition in a rat model of Alzheimer's disease induced by 1-ethyl-1-(2-hydroxyethyl) aziridinium (AF64A).³

References

- 1. Wu, J., Li, Q., and Bezprozvanny, I. Molecular Neurodegeneration 3(15), (2008).
- 2. Lermontova, N.N., Redkozubov, A.E., Shevtsova, E.F., et al. B. Exp. Biol. Chem. 132(5), 1079-1083 (2001).
- 3. Lermontova, N.N., Lukoyanov, N.V., Serkova, T.P., et al. B. Exp. Biol. Chem. 129(6), 640-642 (2000).
- 4. Okun, I., Tkachenko, S.E., Khvat, A., et al. Curr. Alzheimer Res. 7(2), 97-112 (2010).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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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1180 EAST ELLSWORTH RD ANN ARBOR, MI 48108 · USA PHONE: [800] 364-9897 [734] 971-3335 FAX: [734] 971-3640 CUSTSERV@CAYMANCHEM.COM WWW.CAYMANCHEM.COM