



LKT Laboratories, Inc.

Donepezil Hydrochloride

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Product Information

Product ID D5753

CAS No. 120011-70-3

Chemical Name 2-[(1-benzylpiperidin-4-yl)methyl]-5,6-dimethoxy-2,3-dihydroinden-1-one;hydrochloride

Synonym Aricept, BNAG

Formula C₂₄H₂₉NO₃ • HCl

Formula Wt. 415.95

Melting Point

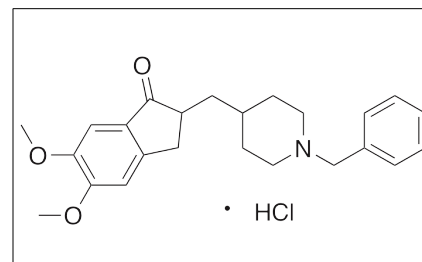
Purity ≥98%

Solubility

Store Temp Ambient

Ship Temp Ambient

Description Donepezil is an acetylcholinesterase (AChE) inhibitor that is clinically used to treat Alzheimer's disease. Donepezil displays neuroprotective, cognition enhancing, cardioprotective, and anti-inflammatory activities. In animal models, donepezil improves memory and learning ability. In vitro, donepezil downregulates expression of the NR1 subunit of NMDA receptors, inhibiting glutamate-mediated Ca²⁺ entry into cells; this mechanism is thought to be dependent on donepezil activity on α7 nicotinic acetylcholine receptors (nAChRs). Additionally, this compound inhibits glycogen synthase kinase 3 (GSK3) and activates PI3K/Akt signaling, helping to prevent amyloid-β (Aβ) toxicity. Donepezil also binds to σ1 receptors. In animal models of congestive heart failure, donepezil decreases left ventricular end diastolic pressure, increases left ventricular contractility, decreases left ventricular expression of brain natriuretic peptide (BNP), and decreases heart weight, resulting in greater survival rates.



Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
D5753	25 mg	\$89.70
D5753	100 mg	\$280.60
D5753	500 mg	\$1010.60

References Jiang Y, Zou Y, Chen S, et al. The anti-inflammatory effect of donepezil on experimental autoimmune encephalomyelitis in C57 BL/6 mice. *Neuropharmacology*. 2013 Oct;73:415-24. PMID: 23831366.

Xia Z, Zhang R, Wu P, et al. Memory defect induced by β-amyloid plus glutamate receptor agonist is alleviated by catalpol and donepezil through different mechanisms. *Brain Res*. 2012 Mar 2;1441:27-37. PMID: 22305339.

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Ishikawa M, Sakata M, Ishii K, et al. High occupancy of sigma1 receptors in the human brain after single oral administration of donepezil: a positron emission tomography study using [11C]SA4503. *Int J Neuropsychopharmacol*. 2009 Sep;12(8):1127-31. PMID: 19573265.

Noh MY, Koh SH, Kim Y, et al. Neuroprotective effects of donepezil through inhibition of GSK-3 activity in amyloid-beta-induced neuronal cell death. *J Neurochem*. 2009 Mar;108(5):1116-25. PMID: 19077054.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.