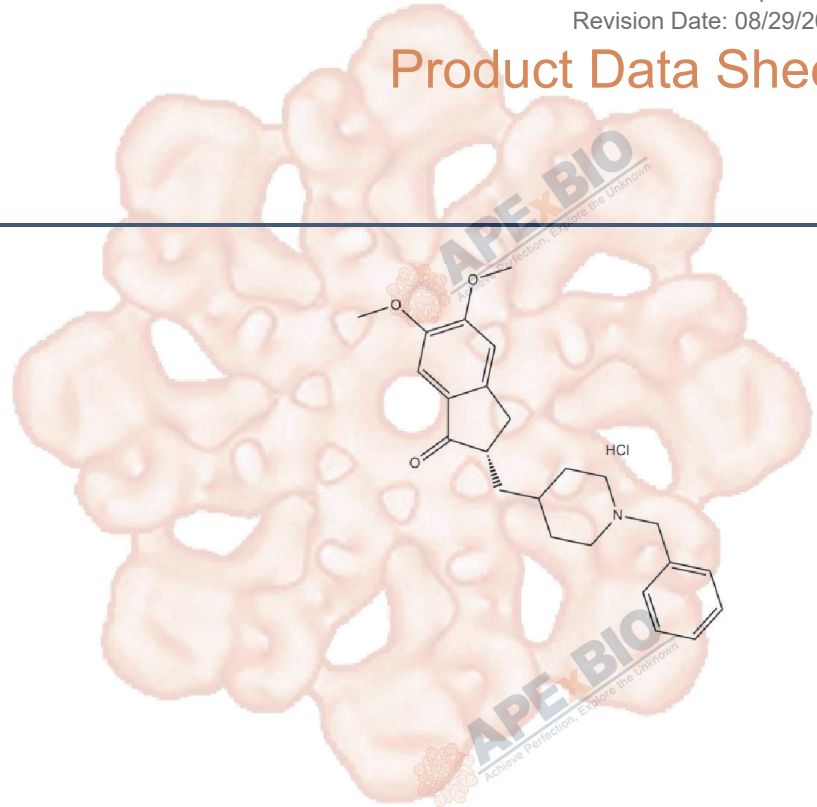


Product Data Sheet

Donepezil HCl

Cat. No.:	B1602
CAS No.:	120011-70-3
Formula:	C ₂₄ H ₃₀ ClNO ₃
M.Wt:	415.95
Synonyms:	
Target:	Chromatin/Epigenetics
Pathway:	Histone Acetyltransferases
Storage:	Store at -20°C



Solvent & Solubility

insoluble in EtOH; insoluble in DMSO; ≥ 10.4 mg/mL in H₂O

In Vitro	Preparing Stock Solutions	Mass			
		Solvent Concentration	1mg	5mg	10mg
		1 mM	2.4041 mL	12.0207 mL	24.0414 mL
		5 mM	0.4808 mL	2.4041 mL	4.8083 mL
		10 mM	0.2404 mL	1.2021 mL	2.4041 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	AChE inhibitor	
IC ₅₀ & Target		
In Vitro	Cell Viability Assay	
	Cell Line:	Human SHSY5Y neuroblastoma cells, human umbilical vein endothelial cells
	Preparation method:	Limited solubility. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
	Reacting conditions:	1 h

	Applications:	Donepezil dose-dependently inhibited the carbachol-stimulated increase in intracellular Ca ²⁺ concentration in human SHSY5Y neuroblastoma cells with the IC ₅₀ of 4.0 ± 0.2 μM. Donepezil protected human umbilical vein endothelial cells (HUVECs) against H ₂ O ₂ -induced cell injury. Donepezil (100 μM) decreased cell viability. Pretreatment with donepezil at concentrations of 1 and 10 μM significantly inhibited the H ₂ O ₂ -induced reduction in cell viability. Exposure of HUVECs to donepezil (1 μM) for 2 h upregulated HIF-1α expression.
In Vivo	Animal experiment	
	Animal models:	Male Lister Hooded rats, adult male NMRI mice
	Dosage form:	Intraperitoneal administration, 1 mg/kg
	Applications:	In Male Lister Hooded rats, donepezil dose-dependently increased salivation and tremor with an ED ₅₀ of 6 μmol/kg. In adult male NMRI mice, donepezil (1 mg/kg) improved recognition performances.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

- [1]. Snape M F, Misra A, Murray T K, et al. A comparative study in rats of the in vitro and in vivo pharmacology of the acetylcholinesterase inhibitors tacrine, donepezil and NXX-066[J]. Neuropharmacology, 1999, 38(1): 181-193.
- [2]. Huang Z H, Guo W, Zhang L L, et al. Donepezil protects endothelial cells against hydrogen peroxide - induced cell injury[J]. CNS neuroscience & therapeutics, 2012, 18(2): 185-187.
- [3].Freret T, Bouet V, Quiedeville A, et al. Synergistic effect of acetylcholinesterase inhibition (donepezil) and 5-HT 4 receptor activation (RS67333) on object recognition in mice[J]. Behavioural brain research, 2012, 230(1): 304-308.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX[®]BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for

long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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