Donepezil  
*Catalog No. 13245*

**CAS Registry No.**: 120014-06-4  
**Formal Name**: 2,3-dihydro-5,6-dimethoxy-2[1-(phenylmethyl)-4-piperidinyl]methyl]-1H-inden-1-one  
**Synonym**: Aricept®  

**MF**: C24H29NO3  
**FW**: 379.5  
**Purity**: ≥95%  
**Stability**: ≥2 years at -20°C  
**Supplied as**: A crystalline solid

### Laboratory Procedures

For long term storage, we suggest that donepezil be stored as supplied at -20°C. It should be stable for at least two years.

Donepezil is supplied as a crystalline solid. A stock solution may be made by dissolving the donepezil in the solvent of choice. Donepezil is soluble in organic solvents such as chloroform and acetone, which should be purged with an inert gas. The solubility of donepezil in chloroform is approximately 50 mg/ml and approximately 25 mg/ml in acetone.

Donepezil is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Acetylcholine is a neurotransmitter involved in neural signaling throughout the body. Donepezil is a reversible acetylcholinesterase inhibitor that readily crosses the blood-brain barrier to reduce the breakdown of acetylcholine.1 It has a half-life in circulation of about 70 hours. As acetylcholine modulates plasticity, excitability, and arousal in the central nervous system, donepezil is commonly used in the treatment of Alzheimer’s disease to improve cognition, memory, and behavior. In this way, it is intended to prevent or reverse dementia. Studies on these effects have been equivocal, indicating that more research into the therapeutic potential of donepezil is warranted.

### Reference


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