Product Information

Verapamil (hydrochloride)
Item No. 14288

CAS Registry No.: 152-11-4

Formal Name: α-[3-[2-(3,4-dimethoxyphenyl)ethyl]methylamino][propyl]-3,4-dimethoxy-α-[1-methyllethyl]-benzeneacetonitrile, monohydrochloride

Synonyms:
- Verapamil monohydrochloride
- Monohydrochloride of verapamil
- Verapamil
- α-[3-[2-(3,4-dimethoxyphenyl)ethyl]methylamino][propyl]-3,4-dimethoxy-α-[1-methyllethyl]-benzeneacetonitrile monohydrochloride

MF: C27H38N2O4 • HCl

FW: 491.1

Purity: ≥98%

Stability: ≥2 years at -20°C

Supplied as: A crystalline solid

UV/Vis: λmax: 205, 231, 280 nm

Laboratory Procedures

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

Verapamil (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the verapamil (hydrochloride) in the solvent of choice. Verapamil (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 verapamil (hydrochloride) in ethanol and DMSO is approximately 10 mg/ml and approximately 16.7 mg/ml in DMF.

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 verapamil (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of verapamil (hydrochloride) in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Verapamil is the prototypical blocker of L-type calcium channels that produces excitation-contraction uncoupling in cardiac muscle by preventing the slow-inward current of calcium ions. Verapamil can also block calcium fluxes in vascular smooth muscle. It has both peripheral and coronary vasodilator effects (IC50 = 0.38 μM in guinea pig aortic strip) and has been used to control hypertension, angina, cardiac arrhythmia, and vascular headaches. Verapamil has also been used in cell biology as an inhibitor of drug efflux pump proteins such as P-glycoprotein, which are often over-expressed in certain tumor cell lines.

References


Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14288

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eye, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your institution.

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