

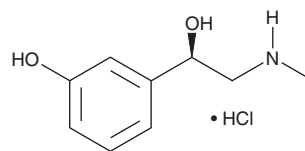
PRODUCT INFORMATION



R-(-)-Phenylephrine (hydrochloride)

Item No. 18619

CAS Registry No.: 61-76-7
Formal Name: 3-hydroxy- α -[(methylamino)methyl]-benzenemethanol, monohydrochloride
Synonym: L-Phenylephrine
MF: C₉H₁₃NO₂ • HCl
FW: 203.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 216, 276 nm



Laboratory Procedures

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

R-(-)-Phenylephrine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the R-(-)-phenylephrine (hydrochloride) in the solvent of choice. R-(-)-Phenylephrine (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 R-(-)-phenylephrine (hydrochloride) in ethanol is approximately 25 mg/ml and approximately 20 mg/ml in DMF and DMSO.

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 R-(-)-phenylephrine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of R-(-)-phenylephrine (hydrochloride) in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

R-(-)-Phenylephrine is an adrenergic α_{1A} receptor agonist ($K_i = 1.4 \mu\text{M}$) that demonstrates selectivity against the α_{1B} and α_{1C} receptor subtypes ($K_{iS} = 23.9$ and $47.8 \mu\text{M}$, respectively).¹ By stimulating adrenergic α_1 receptors, L-phenylephrine can induce aortic smooth muscle contractions, although reported relative affinity and potency values in rabbit are 5-fold weaker compared to that of L-norepinephrine (Item No. 16673).² This compound is frequently used to precontract smooth muscle in preparations designed to study the properties of various vasodilator agents.^{3,4}

References

1. Lomasney, J.W., Cotecchia, S., Lorenz, W., et al. *M J. Biol. Chem.* **266**(10), 6365-6369 (1991).
2. Besse, J.C. and Furchgott, R.F. *J. Pharmacol. Exp. Ther.* **197**(1), 66-78 (1976).
3. Dogan, M., Peker, R.O., Donmez, S., et al. *Interact. Cardiovasc. Thorac. Surg.* **15**(1), 1-4 (2012).
4. Brunsten, A.M., Brookes, S.J.H., Bardhan, K.D., et al. *Am. J. Physiol. Gastrointest. Liver Physiol.* **293**(2), G422-G428 (2007).

WARNING

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

SAFETY 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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