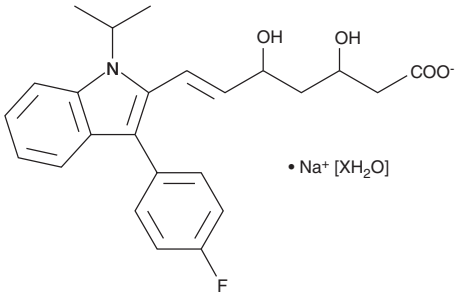
PRODUCT INFORMATION

Fluvastatin (sodium salt hydrate)

Item No. 10010337

Formal Name:	7-[3-(4-fluorophenyl)-1-(1-methylethyl)-1H-indol-2-yl]-3,5-dihydroxy-6-heptenoic acid, sodium salt, hydrate
MF:	$C_{24}H_{25}FNO_4$ • Na [XH_2O]
FW:	410.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 233, 305 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Fluvastatin (sodium salt hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the fluvastatin (sodium salt hydrate) in the solvent of choice, which should be purged with an inert gas. Fluvastatin (sodium salt hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of fluvastatin (sodium salt hydrate) in ethanol is approximately 0.5 mg/ml and approximately 10 mg/ml in DMSO and 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. The solubility of fluvastatin (sodium salt hydrate) in PBS (pH 7.2) is approximately 0.2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Fluvastatin is an inhibitor of HMG-CoA reductase (K_i = 0.3 nM for the rat enzyme).[1,2] It also inhibits the human cytochrome P450 (CYP) isoform CYP2C9 (IC_{50} = 100 nM).[3] Fluvastatin inhibits oxidized LDL-induced ferroptosis and reverses oxidized LDL-induced decreases in glutathione peroxidase 4 (GPX4) and system X_c^- cystine-glutamate antiporter levels in human umbilical vein endothelial cells (HUVECs).[6] *In vivo*, fluvastatin (2 mg/kg per day) decreases serum cholesterol, triglyceride, and phospholipid levels, the formation of thiobarbituric acid-reactive substances (TBARS), and vascular angiotensin-converting enzyme (ACE) activity in rabbits fed a high-cholesterol diet.[4] It increases survival in a mouse model of myocardial infarction when administered at a dose of 10 mg/kg per day.[5] Formulations containing fluvastatin have been used in the treatment of hypercholesterolemia and the prevention of cardiovascular disease.

References

1. Istvan, E.S. and Deisenhofer, J. *Science* **292(5519)**, 1160-1164 (2001).
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3. Transon, C., Leemann, T., and Dayer, P. *Eur. J. Clin. Pharmacol.* **50(3)**, 209-215 (1996).
4. Mitani, H., Bandoh, T., Ishikawa, J., *et al. Br. J. Pharmacol.* **119(6)**, 1269-1275 (1996).
5. Hayashidani, S., Tsutsui, H., Shiomi, T., *et al. Circulation* **105(7)**, 868-873 (2002).
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