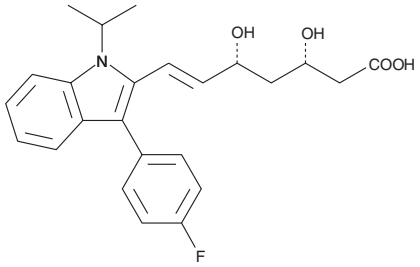
PRODUCT INFORMATION

Fluvastatin

Item No. 10010334

CAS Registry No.:	93957-54-1
Formal Name:	7-[3-(4-fluorophenyl)-1-(1-methylethyl)-1H-indol-2-yl]-3,5-dihydroxy-6-heptenoic acid
Synonym:	NSC 758896
MF:	$C_{24}H_{26}FNO_4$
FW:	411.5
Purity:	≥98%
UV/Vis.:	λ_{max}: 236, 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 is supplied as a crystalline solid. A stock solution may be made by dissolving the fluvastatin in the solvent of choice, which should be purged with an inert gas. Fluvastatin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of fluvastatin in these solvents is approximately 1, 14, and 20 mg/ml, respectively.

Fluvastatin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, fluvastatin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Fluvastatin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. 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).[4] *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.[5] It increases survival in a mouse model of myocardial infarction when administered at a dose of 10 mg/kg per day.[6] Formulations containing fluvastatin have been used in the treatment of hypercholesterolemia and the prevention of cardiovascular disease.

References

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2. Corsini, A., Maggi, F.M., and Catapano, A.L. *Pharmacol. Res.* **31(1)**, 9-27 (1995).
3. Transon, C., Leemann, T., and Dayer, P. *Eur. J. Clin. Pharmacol.* **50(3)**, 209-215 (1996)
4. Li, Q., Liu, C., Deng, L., *et al. Exp. Ther. Med.* **22(5)**, 1275 (2021).
5. Mitani, H., Bandoh, T., Ishikawa, J., *et al. Br. J. Pharmacol.* **119(6)**, 1269-1275 (1996).
6. Hayashidani, S., Tsutsui, H., Shiomi, T., *et al. Circulation* **105(7)**, 868-873 (2002).

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