10.2 Determination of atorvastatin by high performance liquid chromatography with fluorescence detection

The main aim of this work was to develop a method for determination of atorvastatin by HPLC, which would be sensitive enough to determine plasmatic concentration of atorvastatin (ng/ml). UV-VIS detection is not sensitive enough for this purpose, therefore fluorescence detection was used. Atorvastatin was derived by 4-brommethyl-6,7-dimethoxycoumarin in N,N-dimethylformamide. Potassium carbonate and 18-crown-6-ether were used as catalysts. Optimal conditions for the reaction were determined as follows: 45 minutes, 20°C in dark. The method of purification of sample from undesired substances was not successful. However HPLC conditions were fully optimized, the column-switching technique was not effective enough. Chromatograms were not so selective, and desired level of sensitivity was not reached.