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UV-Derivative Spectrophotometric and Stability-Indicating High-Performance Liquid Chromatographic Methods for Determination of Simvastatin in Tablets

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***SUMMARY*. A stability-indicating high-performance liquid chromatographic (HPLC) and a second-order derivative spectrophotometric (UVDS) analytical methods were validated and compared for determination of simvastatin in tablets. The HPLC method was performed with isocratic elution using a C18 column and a mobile phase composed of methanol:acetonitrile:water (60:20:20, v/v/v) at a flow rate of 1.0 ml/min. The detection was made at 239 nm. In UVDS method, methanol and water were used in first dilution and distilled water was used in consecutive dilutions and as background. The second-order derivative signal measurement was taken at 255 nm. Analytical curves showed correlation coefficients > 0.999 for both methods. The quantitation limits (QL) were 2.41 μg/ml for HPLC and 0.45 μg/ml for UVDS, respectively. Intra and inter-day relative standard deviations were < 2.0 %. Statistical analysis with t- and F-tests are not exceeding their critical values demonstrating that there is no significant difference between the two methods at 95 % confidence level.**

KEY WORDS: Simvastatin, Stability-indicating HPLC method; UVDS method.

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