Determination of Some Antidiabetics by High Performance Liquid Chromatography

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Diabetes is a disorder of the metabolism mostly seen as a combination of inherited or environmental factors and resulted with over increase of blood glucose level (hyperglycemia), the prevalence is increasing day by day in Turkey and in the world. Dipeptidyl peptidase-4 inhibitors (DPP-4s), gliptins, are a new class of drugs for oral hypoglycemic and use for the treatment of type 2 Diabetes. Sitagliptin, vildagliptin and saxagliptin are the members of the gliptin drugs which are available in the market in Turkey. The advantages of gliptin drugs are differ from oral hypoglycemic drugs used in the treatment of type 2 diabetes like sulphonylureas, biguanids, α-glucosidase inhibitors and meglinids by oral implementation due to its non-peptide structure, and less side effects to the gastrointestinal system since the incretin receptors are not affected directly. In this study a fast and simultaneous HPLC method was developed for the determination of sitagliptin, vildagliptin and saxagliptin in tablets. A Thermo Ultimate 3000 HPLC was used for the chromatographic method development. Separation was achieved on a Gemini C18 (4.6x250mm, 5µ) HPLC column with a mobile phase combination of methanol: ortho phosphoric acid, in gradient elution. Analytes were detected both on 225 and 212 nm wavelengths. The developed method was validated and will be applied to biological samples. This work was carried out at Istanbul University, Faculty of Pharmacy as an undergraduate research project.

Biography

Sena Caglar Andac has completed her PhD from Istanbul University and Postdoctoral studies from Medical Center of Munich University, Laboratory of Bio-Separation. Currently, she is working as an Associate Professor at Istanbul University, Faculty of Pharmacy. She has researches published in liquid chromatography mass spectrometry for biological fluid analysis of drugs, on-line solid phase extraction coupled liquid chromatography, determination of drugs and degradation studies by high performance liquid chromatography, spectrophotometry and spectrofluorimetry.

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