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High performance liquid chromatographic method for the pharmacokinetic study of saroglitazor formulation after injection to rats

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A method based on solid phase extraction has been developed for the determination of saroglitazar in rat plasma after oral administration by high-performance liquid chromatography coupled with PDA detection (HPLC–PDA). Variables parameter affecting the solid phase extraction efficiency were evaluated and optimized. Chromatography separation was performed on a thermo hypersil C18 column (4.6 mm × 250 mm, 5 µ) by isocratic elution with PDA detection at 279 nm. The assay was linear over the range of 4-20 µg/ml and the lower limit of quantification (LLOQ) was 4 µg/ml. The extraction recoveries were more than 77%, the accuracies were within 3.97%, and the intra- and inter-day precisions were less than 9.36% in all cases. After strict validation, the method indicated good performance in terms of reproducibility, specificity, linearity, precision and accuracy, and it was successfully applied to the pharmacokinetic study of saroglitazar in rats after oral administration.

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Simultaneous determination of plant growth regulator naphthalene acetic acid and naphthalene acetamide in orange, banana peels, soil and lake water extracted through modified and miniaturized QuEChERS method and ion chromatography coupled with UV and fluorescence detector

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A new isocratic simple, selective and highly sensitive with direct injection of sample has been developed for the simultaneous separation determination of two plant growth regulators (PGR) extracted by modified and miniaturized QuEChERS method from orange, banana peels soil and lake water using ion chromatography coupled with fluorescence and UV detector. The proposed analytical and new modified and miniaturized extraction method spiked with 5 µg/L, 15 µg/L and 25 µg/L exhibit satisfactory recoveries 85-111% in samples with relative standard deviations of less than 8%. After having been optimized, this new fluorescence method was validated for linearity (R2>0.98.8), Limit of detection (9 ng/kg-35 ng/kg), precision (%RSD<5.05), accuracy and matrix effect. The matrix effect was evaluated and compensated with matrix matched calibration. The applicability of the developed modified and miniaturized QuEChERS ion chromatography FLD/UV method was demonstrated by determining the presence of NAD and NAA in orange, banana peels and soil and lake water.

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