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Matrix solid phase dispersion extraction and high-performance liquid chromatography determination of pyrazosulfuron herbicide residue in goat tissue samples

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A highly selective matrix solid phase dispersion (MSPD) extraction purification method for the preconcentration of pyrazosulfuron in goat tissues (liver, kidney, muscle and fat) was developed. A C18 sorbent based MSPD column was used for extraction of the analyte and extracted the pyrazosulfuron residues from the sample using acidified ethyl acetate and methylene chloride mixture. The extracts were further purified by passing through the disposable silica mega bond –elut ® cartridges prior to quantification by HPLC on Phenomenex column (150mm length x 4.6mm id x 5µm). The HPLC detection was studied with UV detector at 225 nm. Acetonitrile and milliQwater 50:50 v/v (pH-3.5 adjusted with ortho phosphoric acid) was used as mobile phase at a flow rate of 1.0 ml min-1. The retention time of pyrazosulfuron is about 7.8 minutes. The linearity of pyrazosulfuron was observed over the concentration range 0.01 to 2 µg/mL and the regression coefficient (r) 0.9999. The mean recoveries of pyrazosulfuron form tissues at 0.03 and 0.3 µg g-1 fortification levels were in the range of 86-97%.The limit of quantification and detection was established as 0.03 and 0.01 µg g-1 respectively. The proposed method was successfully applied for the determination of residues in goat liver, kidney, and muscle and fat samples.

Biography

T. Nageswara Rao has completed M.Phil from Andhra University, present he was doing PhD in University of Madras. He has worked as an analytical chemist in various Indian pharmaceutical companies. His area of interest is to develop new analytical methods for bio, environmental, and pharmaceutical samples. At present he is working as a Scientist Grade-II in the analytical Chemistry Department at International Institute of Biotechnology and Toxicology (IIBAT), Padappai, Chennai, India. He has published four papers in reputed journals and also published five papers in national conferences.

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A novel validated RP-HPLC method for the determination of bupivacaine in pure and pharmaceutical formulation

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A simple rapid, sensitive, selective and reproducible reversed- phase high-performance liquid chromatographic method has been developed and validated for the estimation of bupivacaine in pure and Pharmaceutical dosage form. The mobile phase comprises 95 parts of acetonitrile and 5 parts of phosphate buffer at 3.2 pH and with the flow rate of 1.0 ml/min. The retention time of bupivacaine is 2.8 min was recorded at 254nm. The method is linear from 20 to 100 mcg/ml. The correlation coefficient was found to be 0.996. The limits of detection and quantification are also reported for this method. Intra-day and inter-day precisions and the accuracy of the method have been evaluated, values are not more than 1% deviation. Recoveries from formulations were between 99 and 101%. The results of specificity studies indicated no interference from excipients, impurities, and degradation products under various stress conditions and assured that the peak response was due to a single component only. Hence, the present method is cost-effective, faster, and can be used for the routine analysis of these drugs in pure and formulations.

Biography

Trinath M.N, student of M.Pharm Pharmaceutical Analysis, JSS College of Pharmacy, Mysore. He is doing his dissertation work under the guidance of Dr. B.M.Gurupadayya, Professor, Dept. of Pharmaceutical Analysis, JSS College of Pharmacy, Mysore. His current area of research is on analytical method validation of some anti HIV agents.

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