

**Development and Validation of a QuEChERS Based Method for the Analysis of Flukicide and Other Anthelmintic Drugs in Liver and Muscle using UPLC-MS/MS Detection**

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The objective of this research was to develop and validate a simple but effective method for the detection and quantification of 38 anthelmintic residues in animal tissues. The QuEChERS procedure was utilized for sample preparation. Residues were extracted from liver and muscle using acetonitrile, sodium chloride and magnesium sulphate. Extracts were purified by dispersive SPE using magnesium sulphate and octadecylsilane before injection onto the UPLC-MS/MS system. The method was validated according to the 2002/657/EC criteria, and included parameters such as specificity, selectivity, linearity, recovery, within-lab repeatability, within-lab reproducibility,  $CC\alpha$  and  $CC\beta$ . A standard stability study was carried out over a 6 month period, while fortified matrix, incurred matrix and extract stability studies were carried out in bovine liver over a 3 month period. Furthermore, incurred liver, muscle and kidney were used to evaluate the suitability of the QuEChERS method against previously published methods.