OBJECTIVE OF THE RESEARCH WORK

One of the major challenges facing the pharmaceutical industry today is finding new ways to increase productivity, decrease costs that enhance human health. To help address these challenges, the utilisation of analytical technologies and high-throughput automated platforms in order to perform more experiments in a shorter time frame with increased data quality. This research work based on, quantification of drug molecules using liquid chromatography–tandem mass spectrometry in biological fluids

The proposed study deals with the development design faster and more sensitive assay techniques to aid the drug discovery and development process using hyphenated chromatographic techniques like LC-MS/MS, UPLC-MS/MS etc

This study can highlight a number of issues which are frequently encountered during assay development and their possible solutions involving drugs analysis in biological matrices e.g. plasma, urine, blood etc.

The developed method should be validated for quantifying drug molecules fast, selective and reproducible. Validation experiments included fundamental parameters like study of matrix effect from different biological matrixes lots, intra- and inter-day precision and accuracy, selectivity, various stability tests. These validated methods will be applicable for the bioavailability, bioequivalence and pharmacokinetic studies etc.

Recently medication is not by a single drug, but with multi-drug therapy, which could be the use of combinations of different drugs in the treatment of patients suffering from multiple diseases hence for the determination of drugs in combined dosage form is need of pharmaceutical industries. Hence in this proposal simultaneous bioanalytical method will be carried out to reduce cost, time of analysis and resources.

In this proposal, it is planned to develop and validate chromatographic methods for sample preparation of drugs from varying therapeutic categories, in single or in combination, one of such combination of Lornoiroxicam and paracetamol belonging to the anti-inflammatory class of compounds will be studied.