

Green bioanalysis

Vaishnavi Jagtap, Anuprita Patel, Manasi Inamdar and Vandana Gawande
STES's Sinhgad Institute of Pharmacy, India

Bioanalysis, a subdiscipline of analytical chemistry, can be described as the estimation of bioactive or endogenous compounds in biological fluids with the aid of sophisticated instruments. For analytical methodologies, development and validation include optimization of certain critical analytical parameters e.g., accuracy, sensitivity, reproducibility, simplicity, cost effectiveness, flexibility and speed. However, other aspects concerning operator safety and environmental impact of analytical methods are not commonly considered. In the eon of globalization and current scientific scenario, viability of the method also demands minimization of undesirable impact on the environment and human health. This need gave rise to the concept of green bioanalysis that parallels with the principles of Green chemistry. Green bioanalysis thus can be defined as the use of analytical techniques and methodologies that reduce or eliminate the use or generation of by-products, solvents, reagents that are hazardous to human health or the environment. In the new dawn of 21st century, green bioanalysis if implemented well will give new direction to the analytical method development. The presented work deals with the fast evolving concept of green bioanalysis and its promising applications in future.

Biography

Authors are pursuing M. Pharm in Quality Assurance Techniques in Sinhgad Institute of Pharmacy, Narhe, Pune.

vaishnavi249@gmail.com, anupritapatel@gmail.com

Development and validation of bioanalytical RP-HPLC method for simultaneous estimation of rabeprazole and aceclofenac from human plasma

Vandana Gawande, Rohini Mangaonkar and Piyush Rathor
STES's Sinhgad Institute of Pharmacy, India

A simple, selective, precise and accurate bioanalytical HPLC method is developed to quantify Aceclofenac and Rabeprazole in human plasma. The validated method covers the wide range of linearity over 0.5-7.5 µg/ml and is therefore suitable for the determination of above said drugs in human plasma at different therapeutic dose levels. It utilizes protein precipitation as the sample preparation technique. The mobile phase used is 0.05M Potassium dihydrogen phosphate: Acetonitrile: Methanol (4:4:3 v/v). The % mean recovery was found to be 100.66% and 100.26% for Aceclofenac and Rabeprazole respectively. Aceclofenac and Rabeprazole has been found to be stable when subjected under different stability conditions. The proposed method can be applied to monitor plasma concentrations of Aceclofenac and Rabeprazole in pharmacokinetic studies. It can also be used for therapeutic drug monitoring in order to optimize drug dosage on an individual basis. Thus, the proposed HPLC method and bioanalytical method can be successfully applied for the estimation of above mentioned drugs from their oral dosage form and from human plasma.

Biography

Vandana T. Gawande is currently working as an Asst. Prof. Quality Assurance Techniques in STES's Sinhgad Institute of Pharmacy, Narhe, Pune. She was 2nd rank holder in University of Pune for her M.Pharm Degree in Quality Assurance Techniques. She was awarded Sir Ratan Tata Scholarship for all 4 years in B.Pharmacy on the basis of merit. She is currently enrolled for PhD in Pharmaceutical Chemistry in University of Pune. She has published 11 research papers in well known national and International journals.

gawandevandana848@gmail.com