



International Conference & Exhibition on Analytical and Bioanalytical Techniques 2010

ANALBIOANAL - 2010

Pharmaceutical R & D Summit

doi:10.4172/2155-9872.1000048

An Overview of Synthetic Prostaglandins, Steroids and their Bioanalytical Challenges

D. Vijaya Bharathi

Dr.Reddys Laboratories Limited, Hyderabad, India

Synthetic Prostaglandins are analogs or derivatives of prostaglandins that do not occur naturally in the body. They do not include the product of the chemical synthesis of hormonal PGE. Synthetic prostaglandins are used to induce childbirth (parturition) or abortion, to prevent closure of patent ductus arteriosus in new borns with particular cyanotic heart defects, to prevent and treat peptic ulcers, as a vasodilator in ischemia, in pulmonary hypertension, in treatment of glaucoma, to treat erectile dysfunction and used as an ingredient in eyelash and eyebrow growth beauty products.

Synthetic prostaglandins namely misoprostol, enprostil, rioprostil, arabaprostil, metenoprost, lubiprostone etc.

A steroid is a type of organic compound that contains a specific arrangement of four rings that are joined to each other. Examples of steroids include cholesterol, the sex hormones estradiol and testosterone, and the anti-inflammatory drug dexamethasone.

Bioequivalence studies play an important role in establishing in vivo equivalence and most of the synthetic prostaglandins and steroids bioanalytical method development is challenging due to low dose formulation demand of sensitive methods and stability issues.

In detail discussion on factors meeting consideration of MS/MS measurements of steroids and prostaglandins are presented, chromatographic conditions, instrumentation information like HPLC, LCMS detection parameters, sample preparations, recovery details, limit of detection and limit of quantification, T_{max} , C_{max} etc, for application in BA/BE studies of pharmaceuticals was incorporated in the current presentation.

4 case studies 2 from each category are depicted.