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Letter to Editor

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The use of Bioanalysis in Medication Development and Discovery

Bezhan Chankvetadze*

Institute of Physical and Analytical Chemistry, School of Exact and Natural Sciences, Tbilisi State University, Chavchavadze Ave 3, 0179, Tbilisi, Georgia

Letter to Editor

Recent years have witnessed the introduction of many high-quality review articles into the literature covering numerous scientific and technical aspects of bio analysis. Currently it's wide accepted that bioanalysis is AN integral a part of the pharmacokinetic/pharmacodynamics characterization of a unique chemical entity from the time of its discovery and through numerous stages of drug development, resulting in its market authorization. During this compilation, the vital bio analytical parameters and its application to drug discovery and development approaches square measure mentioned, which can facilitate within the development of safe and a lot of efficacious medicine with reduced development time and price. it's supposed to administer some general thoughts during this space which can kind basis of a general framework on however one would approach bio analysis from origin (i.e., discovery of a lead molecule) and progressing through numerous stages of drug development [1].

Sample preparation may be a technique accustomed pack up a sample before analysis and/or to concentrate a sample to boost its detection. Once samples square measure biological fluids like plasma, humor or excreta, this method is represented as bio analytical sample preparation. The determination of drug concentrations in biological fluids yields the info accustomed perceive the time course of drug action, or PK, in animals and man and is an important part of the drug discovery and development process Sample preparation may be a technique accustomed pack up a sample before analysis and/or to concentrate a sample to boost its detection. once samples square measure biological fluids like plasma, humor or excreta, this method is represented as bio analytical sample preparation. The determination of drug concentrations in biological fluids yields the info accustomed perceive the time course of drug action, or PK, in animals and man and is an important part of the drug discovery and development method [2].

There is a general agreement that a minimum of the subsequent validation parameters ought to be evaluated for quantitative procedures: property, activity model, stability, accuracy (bias, precision) and limit of quantification. further parameters which could need to be evaluated embody LOD, recovery, dependability and strength

Repeatability means that however the tactic performs in one work and on one instrument, among a given day. Intermediate exactitude refers to however the tactic performs, each qualitatively and quantitatively, among one work, however currently from instrument-to-instrument and from daily. Finally, dependability refers to however that methodology performs from lab-to-lab, from daily, from analyst-to-analyst, and from instrument-to-instrument, once more in each qualitative and quantitative term. Drug discovery/design consists of identification and characterization of recent targets (enzymes or receptors), synthesis of recent lead molecules, screening of recent lead molecules for in vitro and/or in vivo biological activities, and chemistry characterization of leads. For discovery, the priority is to look at an oversized range of compounds and confirm that pharmacologically active compounds square measure best suited for drug development. In apply, once a compound is obtained that has the specified biological activity, variety of analogues or with chemicals similar compounds are going to be synthesized and tested to optimize the well-liked characteristics of the compound (a method called lead optimization). Victimization machine-driven techniques, ultrahigh turnout will be obtained by the foremost advanced laboratories and tens of thousands of compounds will be screened in someday [3,4].

Using machine-driven techniques, ultrahigh turnout will be obtained by the foremost advanced laboratories and tens of thousands of compounds will be screened in someday. within the secondary screening stage, physiochemical properties like solubility, lipophilicity and stability square measure determined by victimization octane–water partition constant and pKa. The necessity for sound bio analytical strategies is well understood and appreciated within the discovery section and through the diagnosis and clinical stages of drug development. Therefore, it's usually accepted that sample preparation and methodology validation square measure needed to demonstrate the performance of the tactic and therefore the dependableness of the analytical results. The acceptance criteria ought to be clearly established during a validation set up, before the initiation of the validation study. The developed assay ought to be sufficiently rugged that it provides opportunities for minor modifications and/or simple adoptability to suit alternative bioanalytical desires like relevancy to a drug–drug interaction study, toxicokinetic study moreover as for characterization of the plasma levels of the metabolites. For bioanalytical liquid action strategies, sample preparation techniques, the essential validation parameters with their tips and recommended validation add drug discovery and development section are mentioned here [5,6].

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***Corresponding author:** Bezhan Chankvetadze, Institute of Physical and Analytical Chemistry, School of Exact and Natural Sciences, Tbilisi State University, Chavchavadze Ave 3, 0179, Tbilisi, Georgia. E-mail: jpba_bezhan@yahoo.com

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