REVIEW OF LITERATURE

Few researchers have published their research work on mentioned drug (i.e. Tolbutamide). Available literature (not limited to below list) was reviewed and will be used to develop better analytical approach for Tolbutamide considering preclinical biological matrices. Till date no research work has been conducted on this drug, to establish a comprehensive analytical and pre-clinical strategy.

Few available bio-analytical research publications for tolbutamide quantiation:

- John W. Ho. et.al. (1993) in their publication ‘Determination of tolbutamide hydroxylation in rat liver microsomes by high-performance liquid chromatography: effect of psychoactive drugs on in vitro activity’ discussed the HPLC analysis approach for estimation of inhibition of microsomal tolbutamide hydroxylation by psychoactive drugs.

- Simmons et.al. (1972) in their research paper on ‘Determination of serum tolbutamide by gas chromatography’ shared gas chromatographic method using flame ionization detector for tolbutamide level quantitation in biological serum.

- During 2007 to 2009, each year publications were shared over analytical approaches involving use of tolbutamide as cytochrome P450 probe substrate. In 2007, Xiao Yan et.al. (2007) published ‘Validated method for rapid inhibition screening of six cytochrome P450 enzymes by liquid chromatography–tandem mass spectrometry’. In 2008, Shaoyu Zhang et.al. (2008) published article in Journal of Chromatography B entitled as ‘Liquid chromatography/tandem mass spectrometry method for simultaneous evaluation of activities of five cytochrome P450s using a five-drug cocktail and application to cytochrome P450 phenotyping studies in rats’. In year 2009 similar approach for quantization of probe substrates was published by Ying Liu et.al. (2009) in Biological and pharmaceutical Bulletin entitled as ‘A Simplified Method to Determine Five Cytochrome P450 Probe Drugs by HPLC in a Single Run’. 
• Wei Zhang *et.al.* (2010) published LC-MS/MS approach for evaluation of potential inhibitory effects of new chemical entities on 4 different isoenzymes. Publication was entitled as ‘Simultaneous determination of tolbutamide, omeprazole, midazolam and dextromethorphan in human plasma by LC–MS/MS—A high throughput approach to evaluate drug–drug interactions’. Tolbutamide was used as probe substrate for CYP2C9.

• Dan Lin *et.al.* (2012) have published bioanalytical method entitled as ‘Determination of Tolbutamide and its Metabolite in Human Plasma by High Performance Liquid Chromatography and its Application to Pharmacokinetics’. Method utilized liquid-liquid extraction sample processing approach coupled with UV detection at 230 nm.

• Xiangjun Qiu *et.al* (2012) have published LC-MS/MS approach for tolbutamide quantization in rat plasma and its application for assessment of CYP2C9 activity.

Few technical notes utilizing high scan ability of mass spectrometer were published by Thermo Fisher Scientific and Waters application labs for tolbutamide.