

7<sup>th</sup> International Conference and Exhibition on

# Analytical & Bioanalytical Techniques

September 28-30, 2016 Orlando, USA

## Multi-class method for the determination of antibacterials in honey by liquid chromatography-tandem mass spectrometry

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A liquid chromatography coupled with tandem mass spectrometry (LC-MS/MS) method for determination and quantification of sulfonamides, tetracyclines, macrolides, fluoroquinolones, streptomycin, lincomycin and trimethoprim residues in honey has been developed. Prior to instrumental analysis, sample preparation technique involved extraction with ammonium acetate buffer followed by solid-phase extraction cleanup using polymeric reversed phase sorbent. The chromatographic separation was performed on C18 column with gradient elution mode. Mass spectral acquisitions were performed under selective multiple reaction monitoring mode by triple quadrupole mass spectrometry detector. The method has been characterized by providing the parameters of precision, accuracy, specificity, decision limit ( $CC\alpha$ ) and detection capability ( $CC\beta$ ) according to Commission Decision 2002/657/EC. The calibration curves were linear in the range of 5-100  $\mu\text{g}/\text{kg}$ . The recoveries ranged from 86-104%. The repeatability was below 11.3% and within-laboratory reproducibility was lower than 16.1%. Calculated  $CC\alpha$  and  $CC\beta$  values ranged from 5.8-7.6  $\mu\text{g}/\text{kg}$  and from 6.9-9.9  $\mu\text{g}/\text{kg}$ , respectively. The developed method fulfils the criteria for confirmatory methods.

### Biography

Tomasz Bladek is a Research Assistant at the Department of Pharmacology and Toxicology, National Veterinary Research Institute in Pulawy, Poland. His major research interests include the development of new analytical methods for determination of antibiotic residues in food matrices such as muscle, milk, kidney, liver, eggs and honey. He has published several IF papers on antibiotic residues and has been serving as a Reviewer for analytical journals.

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