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**Book of Abstracts**



### S3. 35

## Development of an LC-MS-MS ESI-qTOF Method for Determination of Tetracyclines Residues in Bovine Milk

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**Abstract.** Residue of a veterinary drug is a designation given to a fraction of the drug, such as a metabolite, as well as products related to reaction or chemical conversion or some impurities that may remain in foods originated from treated animals. Tetracyclines are several broad-spectrum antimicrobials. Relatively high concentrations of tetracyclines are secreted in milk, thus cattle withdrawal period must be observed and the milk should not be consumed. The application of tetracyclines is for the prevention or treatment of mammary gland and reproductive tract diseases. Such contamination can produce antibiotic resistance by pathogenic bacteria in humans and also several allergenic reactions. These antibiotics in milk also can further cause problems with fermentation process in dairy industries. This work reports a method of evaluation of tetracycline in milk using a simple and rapid extraction technique that does not need steps for analyte pre concentration or clean up and even so gives good recovery. The extraction occurs in an ultrasound bath for 10 minutes with acetonitrile and formic acid solution, followed by centrifugation. The supernatant was diluted in water and injected into the Ultra Performance Chromatograph (UPLC) Waters Acquity<sup>®</sup>, after filtration on 0,22µm filter. The LC analytical column was a Waters C18 (2.1x50 mm, 1.7µm). The mobile phase was a formic acid water solution (A) and methanol (B). The flow rate was 0.4mL/minute in a gradient mode that performed changes from 90 to 60% of solvent A in 10 minutes. The detector, a Waters Synapt<sup>®</sup>, a Qq-TOF high resolution mass detector was operated at electrospray ionization (ESI) on positive mode (Capillary (kV) = 2.8). The precursor ion was at m/z 445Da and the most intense product ions were at 427 and 410Da. Analyses carried out containing tetracycline as a major component in the range of 10 to 200ng/mL resulted in adequate detection.