

## POSTER P20

### ANTIBIOTIC RESIDUES IN AQUATIC ENVIRONMENTS: VALIDATION OF A UHPLC-MS/MS METHOD

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#### **Abstract**

The occurrence of antibiotic residues in the environment has received considerable attention due to their potential to select for bacterial resistance, which may render some infections untreatable. Overuse of antibiotics in human medicine and animal production leads to antibiotic residues reaching aquatic environments, both surface, ground and marine water, but currently it is not yet well known at which concentrations.

A large number of water samples in regions with both low and high load of antibiotic usage will be collected. These include freshwater samples from areas with high livestock concentrations and hospital effluents and furthermore marine samples taken from aquaculture, harbors (marine and brackish) and seas. For this purpose, a method for detection of antibiotic residues in water had to be developed.

This study presents the validation of a multi-residue method for simultaneous quantitative analysis (screening + confirmation) of 80 different antibiotics from different classes: beta-lactam, sulfonamides, tetracyclines, lincosamides, phenicols, quinolones, macrolides, pleuromutilins and diamonopyrimidine derivates. Solid-phase extraction with OASIS-HLB cartridges (6 cc, 500 mg) was followed by analysis with UHPLC-MS/MS (BEH C<sub>18</sub> column). The parameters limit of detection, limit of quantification, linearity, precision, recovery, specificity and relative matrix effect have been addressed. Results will be published at the conference.

**Keyword:** Antibiotics