

Antibiotics in Beef or Serum by QuEChERS



UCT Part Numbers

ECMSC1850CT

QuEChERS dSPE - 50 mL
Centrifuge Tube (1500 mg MgSO₄
+ 500 mg C18)

This is a streamlined sample preparation method for the analysis of several classes of antibiotics in beef, kidney juice or serum.

Procedure:

1. Extraction

- Weigh 1 g of homogenized beef kidney sample, kidney juice or serum in a 50 mL FEP (fluorinated ethylene propylene) tube or disposable polypropylene tube.
- Add 100 µL of 1 µg/mL composite internal standard solution of ¹³C-sulfamethazine (to compensate for volume change), penicillin-V and cefadroxil (for method performance) in water.
- Add 2 mL water.
- Add 8 mL acetonitrile.
- Shake for 5 minutes.
- Centrifuge at 3450 rcf for 5 minutes.

2. Clean-Up

- Transfer the supernatant into a 50 mL tube with 500 mg C18 (**ECMSC1850CT**) (50 mL centrifuge tube containing 1500 mg anhydrous magnesium sulfate and 500 mg C18).
- Shake for 30 seconds.
- Centrifuge at 3450 rcf for 1 minute.
- Place 5 mL aliquot of the supernatant into a graduated tube.
- Evaporate down to < 1 mL.
- Bring volume to 1 mL with reagent water.
- Transfer the extract into vials by filtering through PVDF 0.45 µm membrane filter syringes
- Sample is now ready for analysis by LC-MS/MS

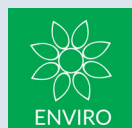




Table of some antibiotics that were analyzed using this procedure

Sulfonamides	Macrolides	Fluoroquinolones	Tetracyclines
sulfathiazole	erythromycin	ciprofloxacin	oxytetracycline
sulfamethazine	lincomycin	danofloxacin	tetracycline
sulfachloropyridazine	tytosin	difloxacin	
sulfadoxine		orbifloxacin	
sulfamethazole		sarafloxacin	
sulfadimethoxine			
B-Lactams			
amoxicillin	ampicillan	cefadroxil	cefezolin
cloxacillin	DCCD	dicloxacillin	oxacillin
nafcillin	Penicillin G	Penicillin V	

CCD desfuoylcentiofur cysteine disulfide

* adapted from work done by Kate Mastovska at USDA

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