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アプリケーションノート

Fluoroquinolone Antibiotics in Beef Kidney by LC-MS/MS

Waters Corporation

This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief highlights about the analysis of antibiotic in beef kidney by LC-MS/MS.

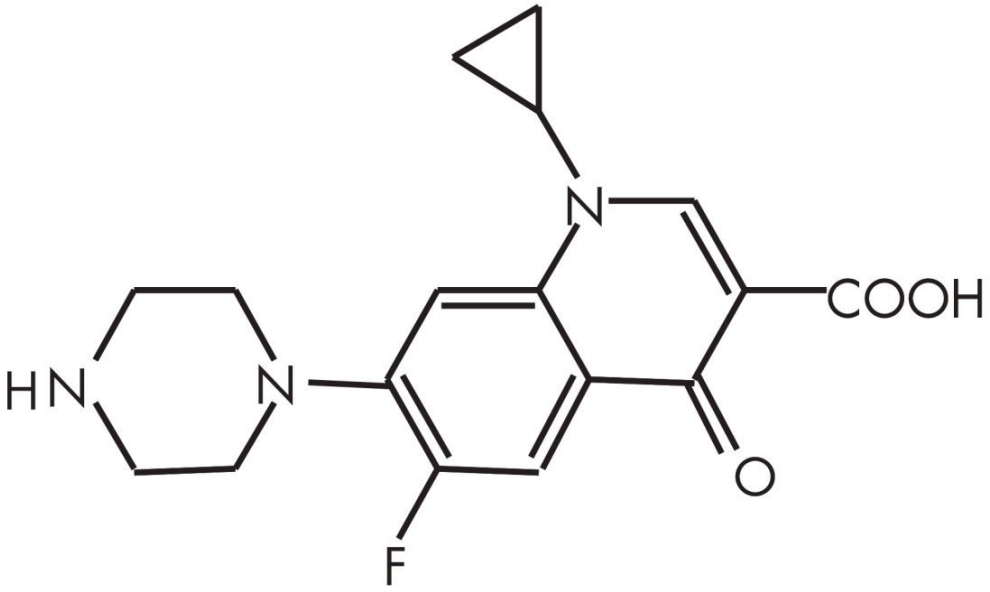
Introduction

The compounds analyzed in this study are:

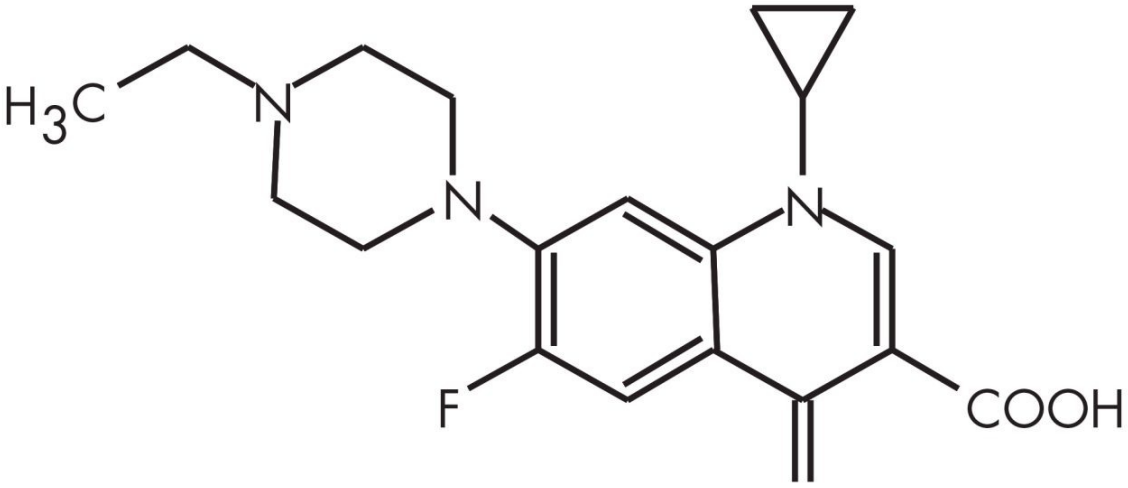
1. Flumequin
2. Enoxacin
3. Norfloxacin
4. Sarafloxacin
5. Ofloxacin
6. Enrofloxacin
7. Danofloxacin

8. Lomefloxacin

9. Ciprofloxacin



CIPROFLOXACIN



ENROFLOXACIN

Experimental

LC Conditions

Column:	Atlantis d C_{18}, 4.6 x 150 mm, 5 µm
Part number:	1860001344
Mobile phase A:	0.2% NFPA* in water
Mobile phase B:	Methanol
Gradient:	Linear, 40% B to 80% B in 10 minutes
Flow rate:	0.8 mL/min
Injection volume:	50 µL
Temperature:	30 °C
Instrument:	Alliance 2695 Separations Module

*NFPA- nonafluoropentanoic acid (NFPA) - C_4F_9 COOH

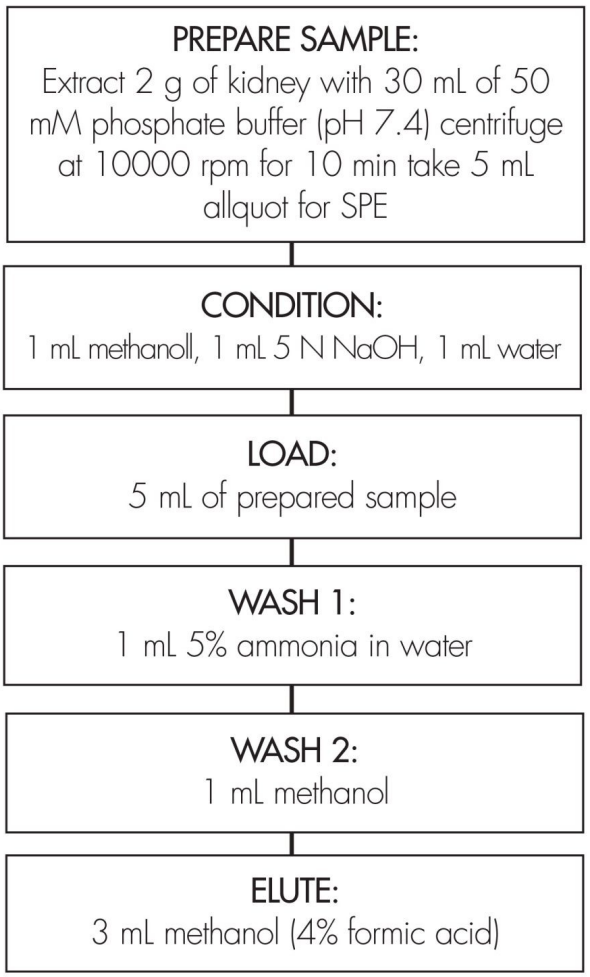
MS Conditions

Instrument:	Quattro
Ion source:	APCI+
Mode:	Multiple Reaction Monitoring
Corona:	0.8 V

Source temp.:	150 °C
Desolvation temp.:	625 °C
Cone gas (N_2):	175 L/Hr
Desolvation gas (N_2):	250 L/Hr
Collision gas:	Argon

OASIS® MAX EXTRACTION METHOD

Oasis® MAX Extraction Cartridge, 6 cc/150 mg, 30µm
Part Number: 186000369

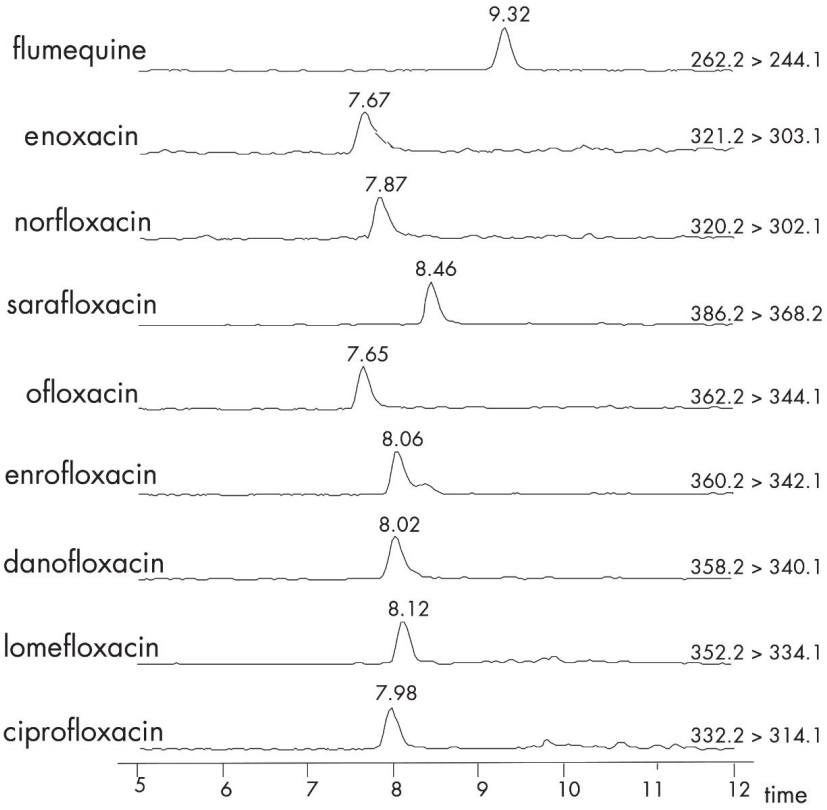


Results and Discussion

Compound	10 µg/kg % Recovery (± % RSD)	50 µg/kg % Recovery (± % RSD)
flumequin	74(± 9.1)	70(± 17)
enoxacin	63(± 5.7)	65(± 13)
norfloxacin	64(± 8.1)	65(± 9.9)
sarafloxacin	68(± 9.5)	71(± 9.8)
ofloxacin	72(± 7.0)	80(± 8.6)
enrofloxacin	73(± 5.3)	76(± 8.9)
danofloxacin	64(± 8.8)	68(± 8.2)
lomefloxacin	76(± 6.9)	76(± 7.9)
ciprofloxacin	70(± 8.7)	62(± 6.1)

External standard calculation
Results calculated against standards in matrix (n=5)

Compound	MW	(MRM)	Cone (V)	Coll. energy (eV)
flumequin	261	262 ‡ 244	50	20
enoxacin	320	321 ‡ 303	50	20
norfloxacin	319	320 ‡ 302	50	23
sarafloxacin	385	386 ‡ 368	50	25
ofloxacin	361	362 ‡ 344	50	20
enrofloxacin	359	360 ‡ 342	50	20
danofloxacin	357	358 ‡ 340	50	25
lomefloxacin	351	352 ‡ 334	50	20
ciprofloxacin	331	332 ‡ 214	50	20



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