APPLICATION NOTE

YMC EUROPE GMBH

Veterinary drug residues in food

The levels and presence of veterinary drug residues in food of animal origin are legislated in the EU with limits often varying with the drug residue.

The MicroLC method on a YMC-Triart C18 capillary column easily fulfils the requirements of the current EU legislation.

The chromatograms clearly demonstrate an improvement in sensitivity when moving to MicroLC. The cut in analyse time provides great potential of cost savings by up to 90% in regards to solvents.

LITERATURE:

Commission Regulation (EU) No 37/2010 of 22 December 2010 on pharmacologically active substances and their classification regarding maximum residue limits in foodstuffs of animal origin, 2010.

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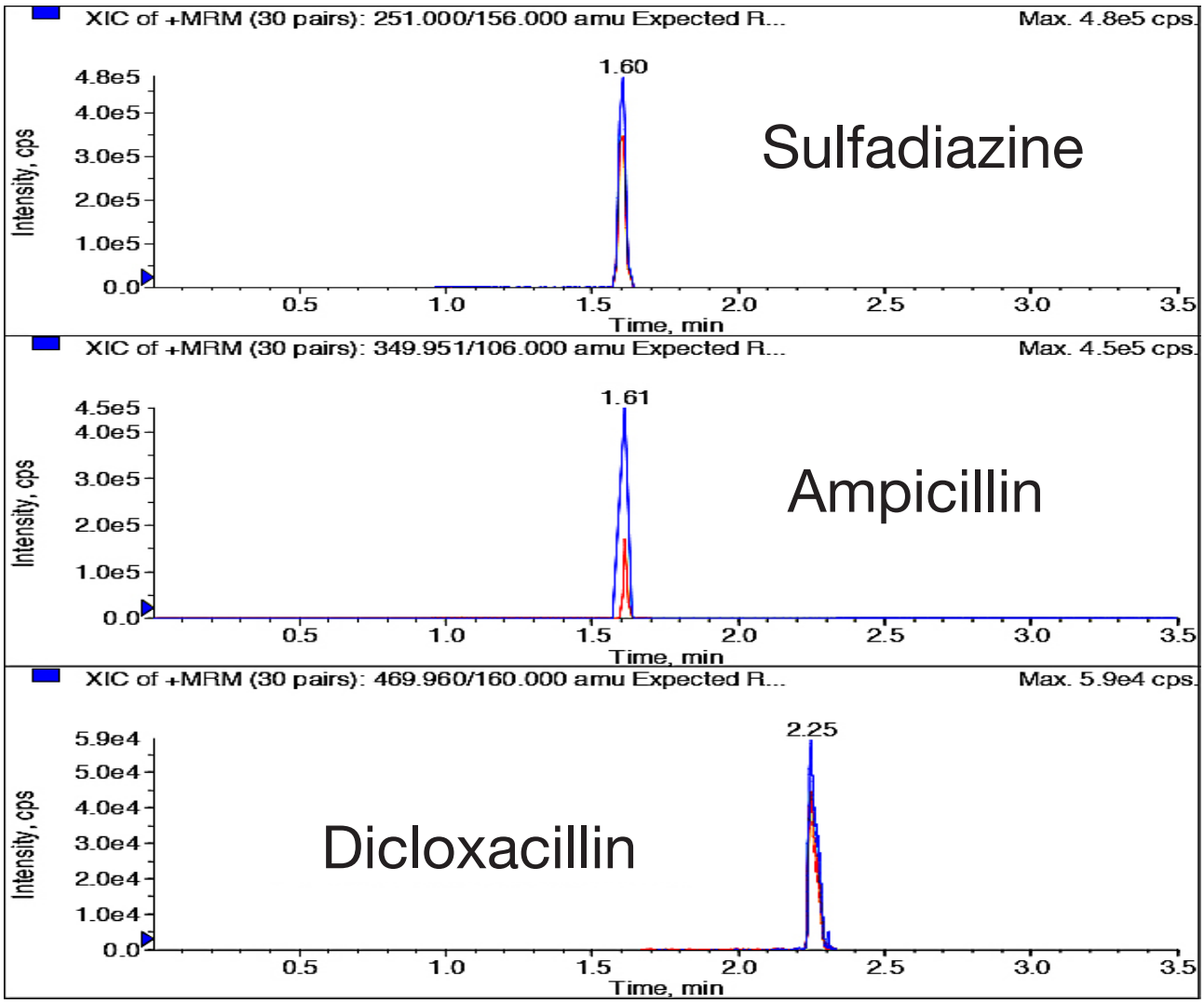

Columns:	YMC-Triart C18, 12 nm, 3 µm, 50 x 0.5 mm ID, 1/32” OD
Part No.:	TA12S03-05J0RU
LC-System:	Eksigent ekspert MicroLC 200
MS/MS-System:	AB SCIEX 5500 QTRAP, ESI
Temperature:	60°C
Flow:	30 µl/min
Injection:	2 µl
Eluent:	A: H_2O + 0.1% FAC, B: acetonitrile + 0.1% FAC

Enhanced Gradient:

Time	0 - 0.5	1.7	1.8 - 2.3	2.4 - 3.5
% B	2	65	100	2

Comparison of 3 different 1 ppb standard solutions separated by using a YMC-Triart C18 capillary column.

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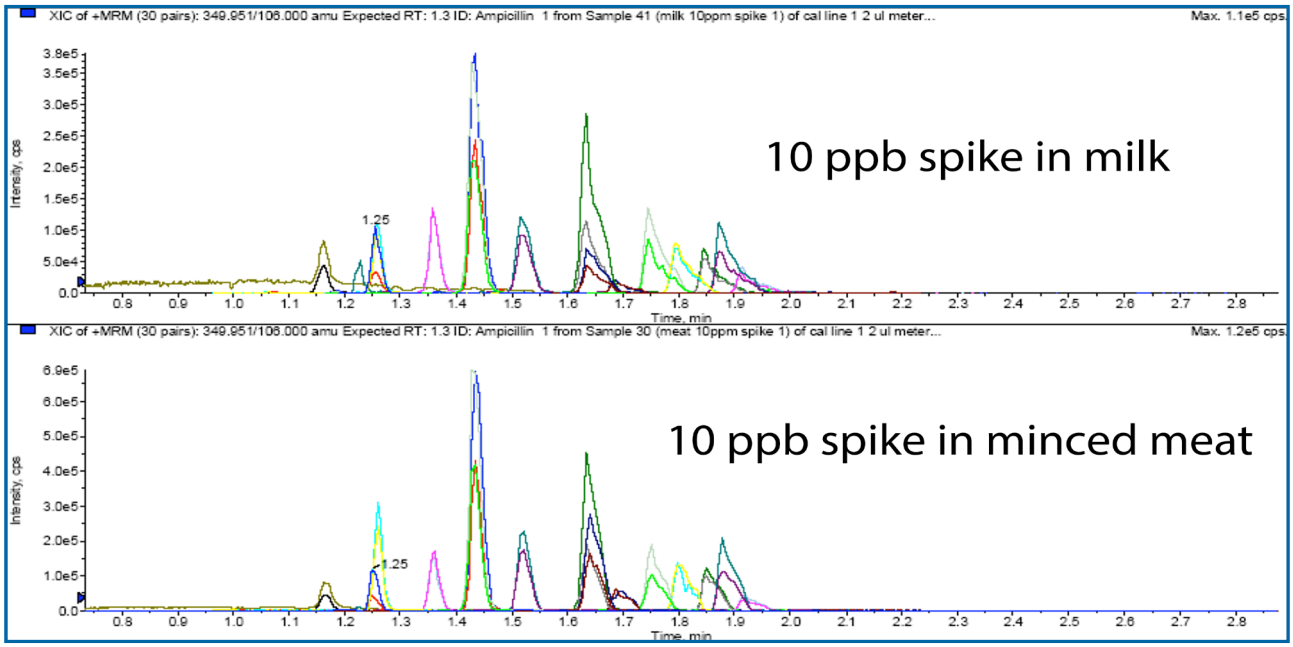
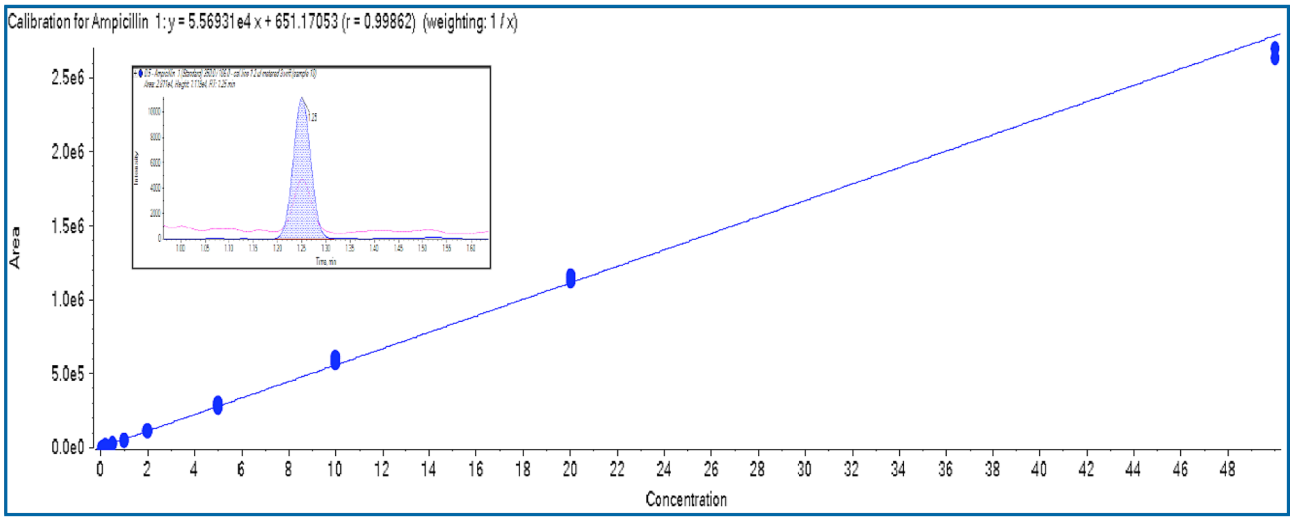
The MicroLC/MS/MS approach has the additional advantage of being a potential drug residue screen where different residues can be detected by a single method.



In the final analysis a total of 32 multiple reaction monitoring (MRM) transitions were evaluated for 15 veterinary drug residues over a 3.5 minute run time on the YMC-Triart C18 capillary column. Milk and meat samples have been spiked at a 10 ppb level with standard compounds. The recoveries from meat were generally higher and it shows that recoveries are affected by the matrix.



Linearity and sensitivity of this method is demonstrated for Ampicillin from 0.05 – 50 ppb. Linearity is provided without use of any internal standards. The inset chromatogram for a 0.5 ppb spiked sample demonstrates the high level of sensitivity.