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**Development, optimization and validation of a method for the determination of veterinary drugs from different therapeutic classes in animal urine by high resolution liquid chromatography****Maria Ramos Payan, García González, Juan Antonio Ocaña, Rut Fernández and Miguel Ángel Bello**  
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A short-time, precise and robust HPLC separation procedure has been developed and optimized for the determination of a series of drugs of different therapeutic classes: chlortetracycline, oxitetracycline, cefoperazone, diclofenac, tiamphenicol, marbofloxacin, ciprofloxacin, danofloxacin, enrofloxacin and flumequine. The chromatographic method used a monolithic  $C_{18}$  column and both diode array and fluorescence detection. This procedure was validated for the analysis of drugs in cow urine, using a simple and fast extraction procedure with methanol/acetonitrile, allowing the simultaneous and efficient extraction of most of the studied drugs. The proposed method was successfully applied to the determination of enrofloxacin (and its metabolite ciprofloxacin) in cow urine, collected after the administration of this antibiotic. A robust and simple HPLC method has been developed to the separation of 11 veterinary drugs of different therapeutic classes. The employed monolithic  $C_{18}$  column (with high porosity and permeability) allowed the application of high volume flows with resulting tolerable precision flow levels and achieved an efficient separation within a short time (12 minutes). The DAD and FLD systems allowed the quantification of the studied drugs with low LOD and LQD and good repeatability. Also, a simple and fast extraction procedure has been developed and applied to the determination of drugs in cow urine. The procedure allowed the extraction of most of the studied drugs, achieving high recoveries with low sample volume consumption. The procedure was applied to the analysis of cow urine after an enrofloxacin treatment allowing its quantification.

**Biography**

Maria Ramos Payan has pursued her PhD from University of Seville, Spain and Postdoctoral studies from University of Copenhagen, Denmark, University of North Carolina, USA and Microelectronic National Center of Barcelona, Spain. She is the Leader of the microfluidic research line. She has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member of repute.

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