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Chemical extraction of sulfachloropyridazine from muscle samples

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Protocol Information

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Authors: Ekaterina Pokrant, Francisca Medina, Aldo Maddaleno, Betty San Martin, Javiera Cornejo

Summary: Analytical methodology for the detection of sulfachloropyridazine (SCP) in samples of feathers via LC-MS/MS was implemented based on techniques previously published by other authors: 1- Hindle R. A validated atmospheric pressure chemical ionization method for analysing sulphonamides in pork muscle. 2013. Available at <http://www.youngin.com/application/0411-0045EN-E.pdf>. Accessed October 12, 2017. 2- Renew JE, Huang CH. Simultaneous determination of fluoroquinolone, sulfonamide, and trimethoprim antibiotics in wastewater using tandem solid phase extraction and liquid chromatography–electrospray mass spectrometry. *J Chromatogr A* 2004; 1042: 113-21. 3- Shao B, Dong D, Wu y, Hu J, Meng J, Tu X, Xu S. Simultaneous determination of 17 Sulfonamide residues in porcine meat, kidney and liver by solid phase extraction and liquid chromatography-tandem mass spectrometry. *Anal Chim Acta* 2005; 546:174-81. 4- Pang G, Cao YZ, Zhang JJ, Jia GQ, Fan CL, Li XM, Liu YM, Li ZY, Shi YQ. Determination of sulfonamides in honey by liquid chromatography- tandem mass spectrometry. *J AOAC Int* 2005; 88:1304-11. 5- Stubbings G, Bigwood T. The development and validation of a multi-class liquid chromatography tandem mass spectrometry (LC– MS/MS) procedure for the determination of veterinary drug residues in animal tissue using a QuEChERS (QUick, EAsy, CHEap, Effective, Rugged and Safe) approach. *Anal Chim Acta* 2009; 637:68-78. 6- Bedendo GC, Jardim IC, Carasek E. A simple hollow fiber renewal liquid membrane extraction method for analysis of sulphonamides in honey samples with determination by liquid chromatography-tandem mass spectrometry. *J Chromatogr A* 2010; 1217:6449-54. 7- Yu H, Tao Y, Chen D, Wang Y, Huang L, Peng D, et al. Development of a high-performance liquid chromatography method and a liquid chromatography-tandem mass spectrometry method with the pressurized liquid extraction for the quantification and

confirmation of sulphonamides in the foods of animal origin. J Chromatogr B 2011; 879:2653-62. The method is based mainly on a solid-liquid extraction with organic solvents. The analyte was concentrated using a water bath at 40-50°C under a mild nitrogen flow. For the instrumental analysis, a Symmetry C8 analytical column of 3.5µm and 2.1 x 100mm (Waters®) was fitted in an Agilent 1290 infinity series liquid-chromatograph equipment, coupled to an API 3200 (AB Sciex, Darmstadt, Germany) triple-quadrupole mass-spectrometer. The analytical data was then integrated using the Analyst® version 1.5 software package (SCIEX, Framingham, Massachusetts).

Associated Publications: Pokrant E, Medina F, Maddaleno A, Martín BS, Cornejo J (2018) Determination of sulfachloropyridazine residue levels in feathers from broiler chickens after oral administration using liquid chromatography coupled to tandem mass spectrometry. PLoS ONE 13(7): e0200206. doi: [10.1371/journal.pone.0200206](https://doi.org/10.1371/journal.pone.0200206)

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