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Author: Anna Gadaj Valentina di Lullo Helen Cantwell
Martin McCormack Ambrose Furey Martin Danaher



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Determination of nitroimidazole residues in aquaculture tissue using ultra high performance liquid chromatography coupled to tandem mass spectrometry

Anna Gadaj^{a,c}, Valentina di Lullo^b, Helen Cantwell^a, Martin McCormack^a, Ambrose Furey^c and Martin Danaher^{a*}

^a Food Safety Department, Teagasc Food Research Centre, Ashtown, Dublin 15, Ireland

^b Department of Life, Health and Environmental Sciences, University of L'Aquila, L'Aquila, Italy

^c Team Elucidate, Department of Chemistry, Cork Institute of Technology, Bishopstown, Cork, Ireland

*Corresponding author: Food Safety Department, Teagasc Food Research Centre, Ashtown, Dublin 15, Ireland, Tel. +353 1 8059500; fax: +353 1 8059550
Email address: martin.danaher@teagasc.ie

Abstract

An UHPLC-MS/MS method was developed for the quantitative confirmatory analysis of residues of nitroimidazole drugs (dimetridazole, ipronidazole, metronidazole, ornidazole and ronidazole) and their corresponding hydroxy metabolites (HMMNI, ipronidazole-OH and metronidazole-OH) in aquaculture tissue. Samples were extracted by shaking in acetonitrile, water, MgSO₄ and NaCl before being defatted with *n*-hexane pre-saturated with acetonitrile and concentrated under nitrogen. Nitroimidazole residues were determined by UHPLC-MS/MS operating in positive electrospray ionisation mode using a reversed phase BEH C₁₈ column. The method was validated according to the EU Commission Decision 2002/657/EC guidelines.

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