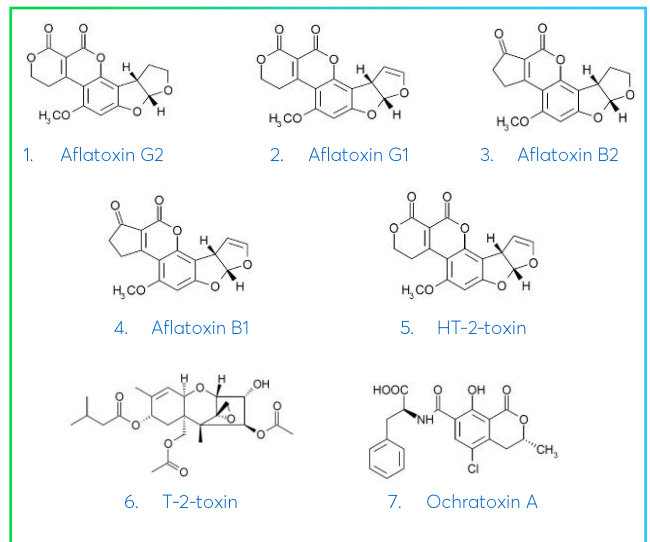


# Rapid Determination of Mycotoxins by LC-MS/MS

## INTRODUCTION

Mycotoxins are secondary metabolites produced by several species of fungi and are considered one of the most important contaminants of agricultural commodities, both in the field and in storage. Agricultural products that may be affected include cereals, spices, dried fruits and various nuts. Although hundreds of mycotoxins are known, relatively few are considered to pose a significant health risk. Aflatoxins, in particular aflatoxin B<sub>1</sub>, are genotoxic and carcinogenic and may cause liver cancer, whilst ochratoxin A and the trichothecenes HT-2 and T-2 can cause various toxic effects. Due to their potential toxicity at low levels to both humans and animals, monitoring and control of certain mycotoxins is important within the food industry.

This technical note details the separation and identification of some of the most concerning mycotoxins from a food safety perspective. The Avantor® ACE® Excel 2 C18-AR, a novel C18-based phase with enhanced aromatic selectivity, provides rapid separation of all seven components, including the structurally



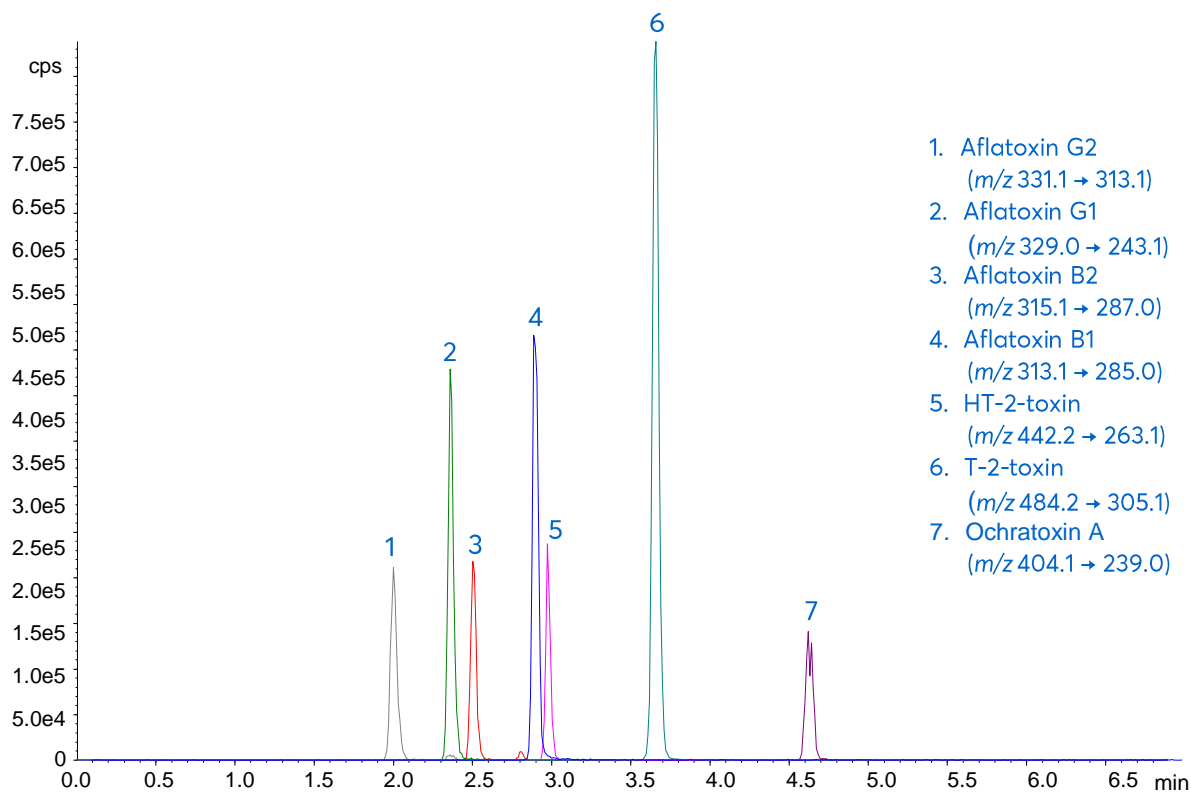
similar aflatoxins. The low bleed characteristic of this phase make it ideal for use with tandem MS detection, permitting low level detection and identification of these key components.

## CONDITIONS

Column: ACE Excel 2 C18-AR  
 Dimensions: 50 x 2.1 mm  
 Part Number: EXL-109-0502U  
 Mobile Phase: A: 1 mM ammonium acetate, 0.5% acetic acid in H<sub>2</sub>O  
 B: 1 mM ammonium acetate, 0.5% acetic acid in MeOH/H<sub>2</sub>O 95:5 v/v

Time (mins)	%B
0.0	40
1.0	40
2.4	60
6.8	87

Flow Rate: 0.6 mL/min  
 Injection: 2 µL  
 Temperature: 40 °C  
 Detection: AB SCIEX triple quad 5500, Positive ESI mode, Source temperature: 500 °C  
 IonSpray voltage: 5500 V



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