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Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Alternaria Toxins by LC-MS/MS

Method Number: LI-00.056

- Scope of Application:**
- Validated matrices: Cereals and cereal-based products, tomato-based products, tree nuts, vegetable oils, dried fruits, spices, cocoa, green coffee, herbs, and tea.
 - Food products outside this scope may be submitted for analysis but must be evaluated for method performance.
 - This method is not intended for the analysis of chemical samples.

Description: In-house method for the quantitative determination of five Alternaria Toxins in foods by liquid chromatography-tandem mass spectrometry (LC-MS/MS).

Sample Weight Required: 500 g (total sample mass needed to ensure a representative sample, other requested testing may share from the same sample.)

- Method Reference:**
- [1] Food Safety Brief on *Alternaria* Toxins (2019)
 - [2] "Foods of plant origin - Multimethod for the determination of pesticide residues using GC- and LC-based analysis following acetonitrile extraction/partitioning and clean-up by dispersive SPE - Modular QuEChERS-method". European Committee for Standardisation (CEN), EN 15662:2018 (2018).
 - [3] SANTE/12682/2019. Guidance document on analytical quality control and method validation procedures for pesticide residues and analysis in food and feed (2019).
 - [4] Commission Regulation (EC) No 401/2006 of 23 February 2006 laying down the methods of sampling and analysis for the official control of the levels of mycotoxins in foodstuffs (2006).
 - [5] Commission Regulation (EU) No 519/2014 of 16 May 2014 amending Regulation (EC) No 401/2006 as regards methods of sampling of large lots, spices and food supplements, performance criteria for T-2, HT-2 toxin and citrinin and screening methods of analysis (2014).

Analytical Platform: LC-MS/MS



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Special Information: A representative sample (minimum 500 g) should have been sent to the laboratory. The sample should not have been damaged or changed during transport or storage. Samples should be stored in air-tight containers and protected from light.

Complex samples, especially herbs, may contain compounds which interfere with the analysis of one or more analytes. (Examples: Altenuene cannot be detected in Dehydrated Thyme, Parsley Flake has an interference for Tenuazonic Acid.) In such cases, the result for affected analytes will be reported as "Not Determinable", as an accurate quantitation is not possible.

Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Altenuene	ALT	µg/kg (ppb)	Grains/Cereals: 0.5 Most Foods: 2 Spices, Tea, Herbs: 10	CV(iR) ≤ 20%
Alternariol	AOH	µg/kg (ppb)	Grains/Cereals: 0.5 Most Foods: 2 Spices, Tea, Herbs: 10	CV(iR) ≤ 20%
Alternariol monomethyl ether	AME	µg/kg (ppb)	Grains/Cereals: 0.5 Most Foods: 2 Spices, Tea, Herbs: 10	CV(iR) ≤ 20%
Tentoxin	TEN	µg/kg (ppb)	Grains/Cereals: 0.5 Most Foods: 2 Spices, Tea, Herbs: 10	CV(iR) ≤ 20%
Tenuazonic Acid	TeA	µg/kg (ppb)	Grains/Cereals: 2.5 Most Foods: 10 Spices, Tea, Herbs: 50	CV(iR) ≤ 20%