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Horizontal methods for molecular biomarker analysis — Methods of analysis for the detection of genetically modified organisms and derived products

Part 5: Real-time PCR based screening method for the detection of the FMV promoter (P-FMV) DNA sequence

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Partie 5: Méthode de dépistage PCR en temps réel pour la détection de la séquence ADN du promoteur FMV (P-FMV)

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Foreword

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The committee responsible for this document is ISO/TC 34, *Food products*, Subcommittee SC 16, *Horizontal methods for molecular biomarker analysis*.

A list of all the parts in the ISO/TS 21569 series can be found on the ISO website.

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Horizontal methods for molecular biomarker analysis — Methods of analysis for the detection of genetically modified organisms and derived products —

Part 5: Real-time PCR based screening method for the detection of the FMV promoter (P-FMV) DNA sequence

1 Scope

This document specifies a procedure for the detection of a DNA sequence used in genetically modified (GM) plants by means of a real-time PCR (polymerase chain reaction). The method detects a 78 base pairs long segment of the *Figwort mosaic virus* 34S promoter DNA sequence. This segment in some GM plants is indicated as FMV promoter (P-FMV) and in other GM plants as FMV enhancer (E-FMV).

The method was developed and validated for the analysis of DNA extracted from foodstuffs. It may be suitable also for analysis of other products such as feedstuffs and seeds. The procedure requires the extraction of an adequate quantity and quality of amplifiable DNA from the test sample.

The DNA sequence amplified by the P-FMV element-specific method can be detected in samples which contain DNA of the naturally occurring *Figwort mosaic virus*. For this reason, it is necessary to confirm a positive screening result. Further analyses are required using construct-specific or event specific methods.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 21569, *Foodstuffs — Methods of analysis for the detection of genetically modified organisms and derived products — Qualitative nucleic acid based methods*

ISO 21570, *Foodstuffs — Methods of analysis for the detection of genetically modified organisms and derived products — Quantitative nucleic acid based methods*

ISO 21571:2005, *Foodstuffs — Methods of analysis for the detection of genetically modified organisms and derived products — Nucleic acid extraction*

ISO 24276, *Foodstuffs — Methods of analysis for the detection of genetically modified organisms and derived products — General requirements and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16577 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

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