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**Molecular biomarker analysis —  
Detection of animal-derived materials  
in foodstuffs and feedstuffs by real-  
time PCR —**

**Part 9:  
Goose DNA detection method**

*Analyse de biomarqueurs moléculaires — Détection de matériaux  
d'origine animale dans les denrées alimentaires et les aliments pour  
animaux par PCR en temps réel —*

*Partie 9: Méthode de détection de l'ADN d'oie*





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# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Scientific basis</b> .....	<b>2</b>
<b>5 Reagents and materials</b> .....	<b>2</b>
5.1 General.....	2
5.2 PCR reagents .....	2
<b>6 Apparatus</b> .....	<b>3</b>
<b>7 Procedure</b> .....	<b>3</b>
7.1 Preparation of the test portion/sample .....	3
7.2 Preparation of DNA extracts.....	3
7.3 PCR setup.....	3
7.3.1 Reaction mixes .....	3
7.3.2 PCR controls .....	4
7.3.3 Real-time PCR thermocycler plate set-up.....	4
7.4 Temperature-time programme.....	4
<b>8 Accept/reject criteria</b> .....	<b>5</b>
8.1 General.....	5
8.2 Identification.....	5
<b>9 Validation status and performance criteria</b> .....	<b>5</b>
9.1 General.....	5
9.2 Robustness.....	5
9.3 Reproducibility.....	6
9.4 Sensitivity .....	6
9.5 Specificity.....	9
<b>10 Test report</b> .....	<b>11</b>
<b>Annex A (informative) BlastN +2.12.0 results for query of GenBank RefSeq Genome (refseq_</b> <b>genomes) and Whole-genome Shotgun Contigs (wgs)</b> .....	<b>12</b>
<b>Bibliography</b> .....	<b>19</b>

## Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 16, *Horizontal methods for molecular biomarker analysis*.

A list of all parts in the ISO 20224 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

Fraudulent adulteration of meat in food and feed threatens both public safety and commerce. Adulteration can affect those adhering to ethnological dietary rules, economic development and social stability. This document provides a real-time polymerase chain reaction (real-time PCR) analytical method for the identification of meat animal species from nucleic acid present in the ingredients of food and feed.

Animal-derived biological materials in food and feed are detected and identified in the laboratory with the following successive (or simultaneous) steps: preparation of the test portion/sample, nucleic acid extraction and purification, PCR amplification and interpretation of results. This document provides guidance for PCR amplification to detect domestic commercial breeds of swan goose (*Anser cygnoides* domesticus) and domestic goose (*Anser anser* domesticus) and interpretation of results. Cross detection of *Anser brachyrhynchus*, *Anser indicus*, *Branta canadensis*, *Cygnus atratus*, *Cygnus buccinator*, *Cygnus cygnus*, *Cygnus olor*, *Nettapus auritus*, *Oxyura jamaicensis* and *Stictonetta naevosa* of Anseriformes is expected. The method can be applied to distinguish domestic goose from domestic chicken, duck and turkey which are most common adulterants of foie gras.<sup>[1]</sup> The method is also able to differentiate domestic goose from other high-end domestic poultry meats (quail, pigeon, pheasant).

The ISO 20224 series consists of technical specifications that describe specific applications. New species DNA detection methods established in the future will be added as independent parts.

