

<b>STN</b>	<b>Mikrobiológia potravinárskeho reťazca Izotermická amplifikácia sprostredkovaná slučkou (LAMP) na dôkaz mikroorganizmov a súvisiacich genetických markerov Všeobecné požiadavky a definície (ISO 24914: 2026)</b>	<b>STN EN ISO 24914</b>  56 0156
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Microbiology of the food chain - Loop-mediated isothermal amplification (LAMP) for the detection of microorganisms and associated genetic markers - General requirements and definitions (ISO 24914:2026)

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 05/26

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EUROPEAN STANDARD

**EN ISO 24914**

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English Version

**Microbiology of the food chain - Loop-mediated isothermal amplification (LAMP) for the detection of microorganisms and associated genetic markers - General requirements and definitions (ISO 24914:2026)**

Microbiologie de la chaîne alimentaire - Amplification isotherme à médiation par boucle (LAMP) pour la détection de micro-organismes et de marqueurs génétiques associés - Exigences générales et définitions (ISO 24914:2026)

Mikrobiologie der Lebensmittelkette - Loop-mediated isothermal amplification (LAMP) zum Nachweis von Mikroorganismen - Allgemeine Anforderungen und Leitlinien (ISO 24914:2026)

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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN ISO 24914:2026 (E)**

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## **European foreword**

This document (EN ISO 24914:2026) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 463 "Microbiology of the food chain" the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2026, and conflicting national standards shall be withdrawn at the latest by July 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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## **Endorsement notice**

The text of ISO 24914:2026 has been approved by CEN as EN ISO 24914:2026 without any modification.



# International Standard

**ISO 24914**

## **Microbiology of the food chain — Loop-mediated isothermal amplification (LAMP) for the detection of microorganisms and associated genetic markers — General requirements and definitions**

*Microbiologie de la chaîne alimentaire — Amplification  
isotherme à médiation par boucle (LAMP) pour la détection  
de micro-organismes et de marqueurs génétiques associés —  
Exigences générales et définitions*

**First edition  
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## ISO 24914:2026(en)



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CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
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**ISO 24914:2026(en)****Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 document 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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This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 9, *Microbiology*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 463, *Microbiology of the food chain*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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).

**ISO 24914:2026(en)****Introduction**

Loop-mediated isothermal amplification (LAMP) is used for the detection of microorganisms and associated genetic markers (e.g. antimicrobial resistance genes, virulence genes) in the food chain. LAMP is a robust nucleic acid amplification technique with minimum requirements for nucleic acid extraction.[\[10\]](#)[\[11\]](#)[\[12\]](#)[\[13\]](#)[\[14\]](#) Some LAMP assays can use extraction-free samples. Many LAMP assays are designed to provide extraction and analysis in the same chamber/container (e.g. tube) for ease of use. LAMP requires minimal instrumentation. Some LAMP instruments are battery operated and may be used in a non-laboratory field setting. This document provides the general requirements and guidance for the development and application of LAMP-based methods for the detection of microorganisms and associated genetic markers sampled along the food chain (e.g. ingredients, human food, animal food, the production environment), and includes sample preparation, nucleic acid extraction, isothermal amplification, signal detection, data interpretation, report generation and performance criteria. This document can be used by academia, industry and regulatory bodies for developing and applying LAMP methods for the detection of microorganisms and associated genetic markers in the food chain.

# Microbiology of the food chain — Loop-mediated isothermal amplification (LAMP) for the detection of microorganisms and associated genetic markers — General requirements and definitions

**WARNING** — In order to protect the health and safety of laboratory personnel and the environment, it is essential that tests for the detection of microorganisms are only undertaken in properly equipped laboratories and under the control of skilled laboratory personnel. Appropriate precautions shall be taken in the disposal of all samples and cultured materials. Persons using this document shall be familiar with normal laboratory safety practices. This document does not purport to address all of the health and safety aspects, if any, associated with its use. It is the responsibility of the user to establish appropriate health and safety practices.

## 1 Scope

This document specifies the general requirements and provides guidance for the development and application of loop-mediated isothermal amplification (LAMP) to detect microorganisms and associated genetic markers (e.g. antimicrobial resistance genes, virulence genes) in the food chain.

This document is applicable to all LAMP methods, platforms, and items from the food chain and laboratories.

This document does not apply to the use of LAMP for quantification.

Validation and verification of LAMP methods as either alternative or reference methods are not covered in this document. Both validation and verification of microbiological methods are described in detail in the ISO 16140 series and ISO 17468.

General requirements for isothermal methods including LAMP for molecular biomarker analysis are given in ISO 22942-1, and general requirements and definitions for polymerase chain reaction (PCR) for the detection and quantification of microorganisms in the food chain are given in ISO 22174.

This document has been established for microorganisms in the food chain and is applicable to:

- products intended for human consumption;
- products for feeding animals;
- environmental samples in the area of food and feed production and handling;
- samples from the primary production stage for the above items.

## 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 6887 (all parts), *Microbiology of the food chain — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination*

ISO 7218, *Microbiology of the food chain — General requirements and guidance for microbiological examinations*

ISO 16140 (all parts), *Microbiology of the food chain — Method validation*

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ISO 20836:2021, *Microbiology of the food chain — Polymerase chain reaction (PCR) for the detection of microorganisms — Thermal performance testing of thermal cyclers*

ISO 22118:2011, *Microbiology of food and animal feeding stuffs — Polymerase chain reaction (PCR) for the detection and quantification of food-borne pathogens — Performance characteristics*

ISO 22174:2024, *Microbiology of the food chain — Polymerase chain reaction (PCR) for the detection and quantification of microorganisms — General requirements and definitions*

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