



NSAI
Standards

Irish Standard
I.S. EN 14131:2003

Foodstuffs - Determination of folate by microbiological assay

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I.S. EN 14131:2003

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

I.S. EN 14131:2003 is the adopted Irish version of the European Document EN 14131:2003, Foodstuffs - Determination of folate by microbiological assay

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EUROPEAN STANDARD

EN 14131

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2003

ICS 07.100.30

English version

Foodstuffs - Determination of folate by microbiological assay

Produits alimentaires - Détermination des folates par essai
microbiologique

Lebensmittel - Mikrobiologische Bestimmung von Folat

This European Standard was approved by CEN on 21 April 2003.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 14131:2003) has been prepared by Technical Committee CEN/TC 275 "Food analysis - Horizontal methods", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by December 2003, and conflicting national standards shall be withdrawn at the latest by December 2003.

Annexes A and B are informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a microbiological method for the determination of the total folate content of foodstuffs by turbidimetric detection of the growth of the microorganism *Lactobacillus casei*, subsp. *rhamnosus* (ATCC 7469).

The method allows for the determination of folates in foodstuffs, including naturally occurring folates and added folic acid (pteroylglutamic acid).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO 3696, *Water for analytical laboratory use — Specifications and test methods (ISO 3696:1987)*.

3 Principle

Samples suspended in phosphate buffer are heated to enable extraction of folates. Protease and α -amylase treatment may be used to further digest the food matrix. Naturally occurring folypolyglutamates are hydrolysed with γ -glutamyl hydrolase (EC 3.4.19.9) [1] to folylmono- or folyldi-glutamates.

Extracted folates are diluted with basal medium containing all required growth nutrients except folate. The growth response of *Lactobacillus casei*, subsp. *rhamnosus* (ATCC 7469) to extracted folates is followed turbidimetrically and is compared to the growth response to calibrant solutions with known concentration.

The method allows for the optional use of a semi-automated liquid-handling system and of a microplate or test tubes for incubation of the microorganism.

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