

TOIDU JA LOOMASÖÖTADE MIKROBIOLOOGIA
Horisontaalmeetod beeta-glükuronidaaspositiivse
***Escherichia coli* arvuliseks määramiseks**
Osa 1: Kolooniade loendamise meetod
temperatuuril 44° C, kasutades membraane ja
5-bromo-4-kloro-3-indolüül-beeta-D-glükuroniidi

Microbiology of food and animal feeding stuffs
Horizontal method for the enumeration of
beta-glucuronidase-positive *Escherichia coli*
Part 1: Colony-count technique at 44 degrees C
using membranes and
5-bromo-4-chloro-3-indolyl beta-D-glucuronide
(ISO 16649-1:2001)

EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-ISO 16649-1:2011 „Toidu ja loomasöödade mikrobioloogia. Horisontaalmeetod beeta-glükuronidaaspositiivse *Escherichia coli* arvuliseks määramiseks. Osa 1: Kolooniade loendamise meetod temperatuuril 44° C, kasutades membraane ja 5-bromo-4-kloro-3-indolül-beeta-D-glükuronidi“ sisaldab rahvusvahelise standardi ISO 16649-1:2001 „Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* - Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide“ identset ingliskeelset teksti.

Standard EVS-ISO 16649-1:2011 on jõustunud sellekohase teate avaldamisega EVS Teataja 2011. aasta detsembrikuu numbris.

Standard on kättesaadav Eesti Standardikeskusest.

This Estonian Standard EVS-ISO 16649-1:2011 consists of the identical English text of the International Standard ISO 16649-1:2001 „Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of beta-glucuronidase-positive *Escherichia coli* - Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide“.

This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.

The standard is available from the Estonian Centre for Standardisation.

Käsitlusala

See ISO 16649 osa määratleb horisontaalmeetodi β -glükuronidaaspositiivse *Escherichia coli* arvuliseks määramiseks toodetes, mis on mõeldud inimtoiduks või loomasöödaks. See põhineb kolooniade loendamistehnikal pärast kasvuvõime taastamist, kasutades membraane ja inkubeerimist temperatuuril 44 °C tahkel söötmel, mis sisaldab kromogeenseid koostisosi ensüümi β -glükuronidaas avastamiseks.

HOIATUS: *Escherichia coli* tüved, mis ei kasva temperatuuril 44 °C, ja eriti need, mis on β -glükuronidaas-negatiivsed, nagu *Escherichia coli* O157, jäävad avastamata.

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Introduction

Because of the large variety of food and feed products, this horizontal method may not be appropriate in every detail for certain products. In this case, different methods which are specific to these products may be used if absolutely necessary for justified technical reasons. Nevertheless, every attempt should be made to apply this horizontal method as far as possible.

When this part of ISO 16649 is next reviewed, account will be taken of all information then available regarding the extent to which this horizontal method has been followed and the reasons for deviations from this method in the case of particular products.

The harmonization of test methods cannot be immediate and, for certain groups of products, International Standards and/or national standards may already exist that do not comply with this horizontal method. It is hoped that when such standards are reviewed they will be changed to comply with this part of ISO 16649 so that eventually the only remaining departures from this horizontal method will be those necessary for well-established technical reasons.

This International Standard describes two horizontal methods (ISO 16649-1 and ISO 16649-2) for the enumeration of β -glucuronidase-positive *Escherichia coli*.

The user may choose either ISO 16649-1 or ISO 16649-2. Either part is for general application. However, ISO 16649-1 should be used for foodstuffs which may contain severely stressed cells.

EVS

Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of β -glucuronidase-positive *Escherichia coli* —

Part 1:

Colony-count technique at 44 °C using membranes and 5-bromo-4-chloro-3-indolyl β -D-glucuronide

1 Scope

This part of ISO 16649 specifies a horizontal method for the enumeration of β -glucuronidase-positive *Escherichia coli* in products intended for human consumption or for the feeding of animals. It uses a colony-count technique after resuscitation using membranes and incubation at 44 °C on a solid medium containing a chromogenic ingredient for detection of the enzyme β -glucuronidase.

WARNING — Strains of *Escherichia coli* which do not grow at 44 °C and, in particular, those that are β -glucuronidase negative, such as *Escherichia coli* O157, will not be detected.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 16649. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 16649 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6887-1, *Microbiology of food and animal feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions*.

ISO 7218, *Microbiology of food and animal feeding stuffs — General rules for microbiological examinations*.

3 Terms and definitions

For the purposes of this part of ISO 16649, the following terms and definitions apply.

3.1

β -glucuronidase-positive *Escherichia coli*

bacteria which at 44 °C form typical blue colonies on tryptone-bile-glucuronide medium (TBX) under the conditions specified in this part of ISO 16649

3.2

enumeration of β -glucuronidase-positive *Escherichia coli*

determination of the number of colony-forming units (CFU) of β -glucuronidase-positive *Escherichia coli*, per millilitre or per gram of sample, when test and calculations are carried out in accordance with this part of ISO 16649