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(JBA/JSA)

**Horizontal method for the enumeration
of coagulase-positive staphylococci
(*Staphylococcus aureus* and other
species) — Part 1: Technique using
Baird-Parker agar medium**

ICS 07.100.30

Reference number : JIS K 3703-1 : 2004 : (E)

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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Economy, Trade and Industry, through deliberations at the Japanese Industrial Standards Committee according to the proposal of establishing a Japanese Industrial Standard from Japan Bioindustry Association(JBA)/the Japanese Standards Association(JSA), with a draft of Industrial Standard based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

This Standard has been made based on *ISO 6888-1 : 1999 Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1 : Technique using Baird-Parker agar medium* for the purposes of making it easier to compare this Standard with International Standard; to prepare Japanese Industrial Standard conforming with International Standard; and to propose a draft of an International Standard which is based on Japanese Industrial Standard.

Attention is drawn to the possibility that some parts of this Standard may conflict with a patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have technical properties. The relevant Minister and the Japanese Industrial Standards Committee are not responsible for identifying the patent right, application for a patent after opening to the public, utility model right or application for registration of utility model after opening to the public which have the said technical properties.

JIS K 3703 consists of the following two parts, under the general title “*Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)*”:

—*Part 1: Technique using Baird-parker agar medium*

—*Part 2: Technique using rabbit plasma fibrinogen agar medium*

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the original JIS is to be the final authority.

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Horizontal method for the enumeration of coagulase-positive staphylococci

(*Staphylococcus aureus* and other species)—

Part 1: Technique using Baird-Parker agar medium

0 Introduction This Japanese Industrial Standard has been prepared based on the first edition of ISO 6888-1:1999 *Microbiology of food and animal feeding stuffs—Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) —Part 1: Technique using Baird-Parker agar medium* published in 1999 with some modifications of the technical contents.

In this Standard, the portions underlined with dots are the matters in which the contents of the original International Standard have been modified. A list of modifications with the explanations is given in annex (informative).

1 Scope This part of JIS K 3703 specifies the method for the enumeration of colonies obtained with aerobic incubation at 35 °C or 37 °C using Baird-Parker agar medium (hereafter referred to as “agar medium”).

The purpose of this part of JIS K 3703 is to enumerate coagulase-positive staphylococci existing in food stuffs intended for human consumption or feeding animals (limited to those within the application of the Industrial Standardization Law) [bibliography 1)].

Because of the presence of a great variety of food and animal feeding products, this enumeration method, which is generally applicable to all, may not be suitable for some specific products. In this case, other method used exclusively for testing these products may be used, if it has a reasonable technical reason. However, every possible effort shall be made to apply this enumeration method as far as possible.

The group of JIS K 3703 standards specifies two methods (JIS K 3703-1 and JIS K 3703-2) for the enumeration of coagulase-positive staphylococci, including enterotoxin-producing strains. Although *Staphylococcus aureus* is the major subject of these methods, portions of *S. intermedius* and *S. hyicus* strains are also subjected to the methods.

JIS K 3703-1 shall generally apply to the enumeration of coagulase-positive staphylococci, including enterotoxin-producing strains. However, the procedures described in JIS K 3703-2 should preferably apply to food materials potentially contaminated with the following species (excluding those not subjected to the application of the Industrial Standardization Law, such as cheese produced from raw milk and raw meat product)...

- Staphylococci that form atypical colonies on Baird-Parker agar medium.
- Background flora [bacterial flora] that may cover the target colonies.

In JIS K 3703-1, confirmation of staphylococci is based on the positive reaction to coagulase. However, *S. aureus* is known to include strains that are weakly positive to coagulase. Although such weakly positive strains may be confounded with other species, they can be distinguished by adding tests not included in JIS K 3703-1. Such testing methods include lysostaphin sensitivity, hemolytic toxin production, and heat-resisting nuclease production tests and the acid production test by mannitol degradation, [bibliography 2)].

NOTE : The International Standard corresponding to this part of JIS K 3703 is as follows.

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and JIS are IDT (identical), MOD (modified), and NEQ (not equivalent) according to ISO/IEC Guide 21.

ISO 6888-1:1999 *Microbiology of food and animal feeding stuffs—Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)—Part 1: Technique using Baird-Parker agar medium (MOD)*

2 Normative references The following standards contain provisions which, through reference in this part of JIS K 3703, constitute provisions of this part of JIS 3703. The most recent editions (including the amendments) of the standards indicated below shall be applied.

JIS K 3703-2 *Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species)—Part 2 : Technique using rabbit plasma fibrinogen agar medium*

JIS K 8008 *General rules for biochemical reagents*

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 Definitions For the purposes of this part of JIS K 3703, the following definitions apply.

3.1 coagulase-positive staphylococci bacteria which form typical and/or atypical colonies on the surface of agar medium and which show a positive coagulase reaction when the test is performed following the method specified in this part of JIS K 3703