



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 4789.8-2016

**National food safety standard - Food Microbiological
Examination - Yersinia Enterocolitica**

食品安全国家标准 食品微生物学检验 小肠结肠炎耶尔森氏菌检验

(English Translation)

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Foreword

This Standard replaces GB 4789.8-2008, National Food Safety Standard - Food Microbiological Examination - *Yersinia Enterocolitica*.

Compared with GB 4789.8-2008, the major changes of this Standard are as follows.

- it changes the standard name into "National Food Safety Standard - Food Microbiological Examination - *Yersinia Enterocolitica*";
- it modifies the morphological description of typical colonies;
- it deletes the commercial names in biochemical identification;
- it describes the method for serologic identification.

National Food Safety Standard - Food Microbiological Examination - *Yersinia Enterocolitica*

1 Application Scope

This Standard specifies the method for the test of *Yersinia enterocolitica* in foods.

This Standard applies to the test of *Yersinia enterocolitica* in foods.

2 Apparatus and Materials

In addition to the conventional sterilization and culture equipment in a microbiological lab, other apparatus and materials are as follows.

2.7 Sterile pipette. 1 mm (having a graduate of 0.01 mL) and 10 mL (having a graduate of 0.1 mL).

2.10 Microorganism biochemical identification kit or microorganism biochemical identification system.

3.3 Modified Y medium (agar Y, modified). see A.3.

Sodium chloride 3.0 g

Disodium hydrogen phosphate 2.0 g

0.2% bromothymol blue solution 12.0 mL

Distilled water 1 000 mL

A.5.2 Preparation

A.5.2.1 After preparing glucose fermentation tube in accordance with the constituents in A.5.1; correct the pH value to 7.4; add glucose to 0.5%; split charging to small test tubes having an inverted small tube; carry out autoclaved sterilization for

15 min at 121°C.

A.5.2.2 After preparing the other sugar fermentation tubes in accordance with the constituents above; split charging to 100 mL each flask; carry out autoclaved sterilization for 15 min at 121°C. Use different kinds of sugar to prepare 10% solutions and meanwhile carry out autoclaved sterilization. Add 5 mL of sugar solution to 100 mL of medium; split charging to small test tubes by aseptic technique. If the sugar is not pure, it will be hydrolyzed by itself after heating, so sterilization shall be carried out by filtering.

A.5.3 Test method

Pick a small amount of culture from the agar slant to inoculate to incubate at 26°C ± 1°C; observe for 2 d ~ 3 d, as a general rule. Torpid reaction needs to be observed for

14 d ~ 30 d.

A.6 Ornithine decarboxylase test medium

A.6.1 Constituents

Peptone 5.0 g

Yeast extract 3.0 g

Glucose 1.0 g

Distilled water 1 000 mL

1.6% bromocresol purple-ethyl alcohol solution 1.0 mL

L-ornithine or DL-ornithine 0.5 g/100 mL or 1 g/100 mL

A.6.2 Preparation

After heating to dissolve all constituents except ornithine; split charging 100 mL of ornithine to each flask. Add L-ornithine to 0.5% or DL- ornithine to 1%. Then correct the pH value to 6.8. Do not add ornithine to control medium. Split charging to sterile small test tubes, 0.5 mL each tube; add dropwise one layer of liquid paraffin on the top; carry out autoclaved sterilization for 10 min at 115°C.

A.6.3 Test method

Pick culture from the agar slant for inoculation; incubate for 18 h ~ 24 h at 26°C ± 1°C; observe the results. The ornithine decarboxylase positive ones generate alkali, so the immediately or within several minutes; in case of a negative reaction, observation shall be performed after incubation for 4 h at 36°C ± 1°C.

A.9 Alkali treatment solution

A.9.1 0.5% sodium chloride solution

Sodium chloride 0.5 g

Distilled water 100 mL

Carry out autoclaved sterilization for 15 min at 121°C.

A.9.2 0.5% potassium hydroxide

Potassium hydroxide 0.5 g

Distilled water 100 mL

Carry out autoclaved sterilization for 15 min at 121°C.

A.9.3 Preparation

Mix up an equal quantity of 0.5% sodium chloride and 0.5% potassium hydroxide.

A.10 Urea medium

A.10.1 Constituents

Urea 20.0 g

Yeast extract 0.1 g

Potassium dihydrogen phosphate 0.091 g

Disodium hydrogen phosphate 0.095 g

Phenol red 0.01 g

Distilled water 1 000 mL

A.10.2 Preparation

Dissolve the constituents in A.10.1 in distilled water; correct the pH value to 6.8 ± 0.2 .

Do not heat; filter for sterilization; split charging to sterile small test tubes by aseptic technique, about 3 mL each tube.

A.10.3 Test method

Pick agar culture to inoculate to urea medium; incubate for 24 h at $26^{\circ}\text{C} \pm 1^{\circ}\text{C}$. The urease positive ones generate alkali, so it makes the medium turn red.

A.11 Nutrient agar

A.11.1 Constituents

Peptone 10.0 g

Beef extract 3 g

Sodium chloride 5 g

Agar 15 g

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