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WS

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

WS/T 634-2018

**Detection of intestinal protozoa - Iodine staining smear method
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the National Health Standards Committee Parasitic Diseases Standards Committee.

This standard was drafted. Henan Provincial Center for Disease Control and Prevention, Shanghai Municipal Center for Disease Control and Prevention, Zhengzhou University, Institute of Parasitic Diseases, National Institute of Parasitic Diseases, Chinese Center for Disease Control and Prevention.

1 Scope

This standard specifies the iodine staining smear method for the detection of intestinal protozoa.

This standard applies to the detection of intestinal protozoa by disease prevention and control institutions and medical institutions at all levels.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest edition (including all amendments) applies to this document.

WS 287 Diagnostic criteria for bacterial and amoebic dysentery Diagnosis of WS/T 487 cryptosporidiosis

3 Terms and definitions

The following terms and definitions defined by WS 287 and WS/T 487 apply to this document.

Intestinal protozoa

A single-cell eukaryote that is parasitic in the human gut. Common intestinal protozoa are amoeba, flagellates, sporozoans, ciliates, and human buds.

Protozoa and so on.

Cyst cyst

The stage in which the protozoa are inactive and not ingesting nutrients.

Iodine solution

An aqueous solution of iodine and potassium iodide is used to check the encapsulation of protozoa.

4 Instruments

4.1

Biological microscope (objective 10x, 40x, 100x, eyepiece 10x).

4.2

Electronic balance (weighing range 0 g~100 g, accuracy 0.1 g).

4.3

Micrometer (0.1 mm micrometer for eyepiece and 0.01 mm micrometer for objective lens).

5.1 Reagents

Iodine solution (see Appendix A for preparation methods).

5.2 Materials

5.2.1

Fecal sampling box (clean, wide mouth, covered).

5.2.2

Slides.

5.2.3

Cover slips (18 mm x 18 mm).

5.2.4

Bamboo sticks.

5.2.5

scorpion (medical dentate, 12.5 cm, elbow).

5.2.6

Measuring cylinder (100 mL).

5.2.7

Volumetric flask (100 mL).

5.2.8

Brown reagent bottle (100 mL, covered, matte).

6.1 Sample preparation

Place 5 g to 10 g of fresh feces in the stool sample box, identify the number on the stool sample box, patient name, date of collection, sample the test should be carried out within 24 h. If it is not detected in time, it should be stored at 4 ° C for less than 72 h.

6.2 Sample testing

Near the center of the slide, drop 1 drop of the prepared iodine solution. Pick up the mung bean-sized stool with a bamboo stick, place it in iodine and mix well, and apply it to the diameter.

A uniform film of about 1 cm, the thickness of which is slightly identifiable through the faecal film. Covered with a cover slip, placed on a microscope Check below (see Appendix B).

6.3 Observation under the microscope

Use the objective lens 40x to observe and find the intestinal protozoan cysts or oocysts in order from left to right and top to bottom (see Appendix B and Appendix C).

6.4 Result determination

All the smears were observed to be positive for the cyst or oocyst, and no cyst or oocyst was found to be negative. Encapsulation or oocyst size, shape, Number of nuclei, shape and distribution of perinuclear staining plasmids, shape and location of nucleoli, presence or absence of fibril and fibril arrangement, glycogen block and chromosome the morphological characteristics determine the species (see Appendix D and Appendix E).

Appendix A

(informative appendix) Preparation of iodine solution A.1 formula Potassium iodide 4.0 g, chemically pure.

Iodine 2.0 g, chemically pure.

Distilled water 100 mL.

A.2 Preparation method Dissolve 4.0 g of potassium iodide in 30 mL of distilled water, then add 2.0 g of iodine. Dissolve and dilute to 100 mL with distilled water. Mix well.

Store in a brown reagent bottle with a stopper.

Appendix B

(informative appendix) Intestinal protozoan detection B.1 stool examination Near the center of the slide, drop 1 drop of prepared iodine solution, pick up the fresh mung bean size stool with bamboo stick, put it in iodine solution and mix well.

The manure film with a diameter of about 1 cm is relatively uniform. The thickness of the fecal membrane is slightly identifiable through the faecal film. Covered with coverslips, Check under the microscope. First use the objective lens 10 x to find the field of view, and then use the objective lens 40 x to observe, if necessary, use the objective lens 100 x to observe the capsule or the structural features of the oocysts were measured using a micrometer to measure the size of the cyst or oocyst. Find intestinal parasites in order from left to right and top to bottom or oocysts. All the smears were observed to be positive for the cyst or oocyst, and no protozoan cyst or oocyst was found to be negative. Encapsulation or oocyst Size, shape, number of nuclei, shape and distribution of perinuclear staining plasmids, shape and location of nucleoli, presence or absence of fibril and fibril arrangement, glycogen Morphological characteristics such as blocks and pseudochromosomes are used to determine the species.

In order to avoid the missed inspection, the feces should be collected the next day for more than 3 consecutive times. For some chronic patients, the fecal examination should last for 1 week to 3 weeks, multiple times.

Check to make sure there are no missed patients. The cysts or oocysts of common intestinal protozoa are more common in patients with chronic diarrhea and in forming feces,