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

WS/T 632-2018

**Detection of Babesia spp. - Blood smear microscopy
examination 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. National Institute of Parasitic Diseases, Chinese Center for Disease Control and Prevention, Second Military Medical University, Chinese Academy of Agricultural Sciences Sea Veterinary Research Institute.

Drafters of this standard. Zhang Yi, Zhou Xiaonong, Liu Qin, Chen Yuhong, Zhu Huaimin, Zhou Jinlin.

Babesia detection blood smear microscopy

1 Scope

This standard specifies the blood smear microscopy method for the detection of Babesia.

This standard applies to the detection of Babesia in 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 article.

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

WS/T 569 Plasmodium detection blood smear microscopy WS/T 564 Babesia diagnosis

3 Terms and definitions

The following terms and definitions apply to this document.

Babesia spp.

A type of protozoan that is parasitic in human and vertebrate red blood cells can cause Babesiosis. Infected with human body, Babeia has Babesia microti, B.divergens, B.duncani and Orion Babe (B.

Venatorum) and so on.

Blood smear blood smears A smear prepared by applying blood to a glass slide is divided into a thick blood film smear and a thin blood film smear.

6.1.1 Blood collection site and blood collection method

Blood is taken from the tip (the fingertip or the earlobe). Use a 75% alcohol cotton ball to disinfect the blood collection area. After the alcohol is evaporated, use your thumb and forefinger to tighten.

Pinch the top of the earlobe or the fingertip of the ring finger, and hold the disposable blood

collection needle in the other hand to quickly penetrate the skin and gently squeeze the bleeding. Babies can be from the big toe or the heel is stabbed to take blood.

6.1.2 Thick film production

Take a sterilized slide (or adhesive slide) as a pusher, use a corner of the pusher to take 4 μ L ~ 5 μ L of blood to make the blood and the other 1 the flat glass slide (or adhesive slide) is placed in the center-right position and rotates from the inside to the outside. Draw 2 to 4 turns and coat it to a diameter of 0.8 cm.

Round thick thick film of 1 cm size (see Appendix A).

6.1.3 Thin film production

Dry the cotton ball to remove the blood stain from the lower corner of the pusher. Use the middle of the same pusher to take about 1 μ L~1.5 μ L of blood. Place blood on the left side of the thick film with a margin of about 0.3 cm, the edge of the pusher is placed against the slide, and the upper and lower sides are gently moved to spread the blood along the edge of the pusher to a width of 2 cm.

The slides are kept at an angle of 25° to 35°, and the push piece is pushed forward from right to left to push the tongue into a thin blood film (see Appendix A).

6.1.4 Number

After the blood smear is prepared, place it horizontally, and after drying thoroughly, mark the number and date on the frosted glass on one side of the slide or on the side near the thick film.

period.

6.2.1 Thin film fixation

Place the thin film at a 45° angle at one end, draw the methanol solution with a disposable pipette, and evenly apply it on the surface of the thin blood film to avoid touching the thick blood.

membrane.

6.2.2 Thick blood film hemolysis

A few drops of distilled water were added to the dried thick blood film to completely cover the blood film, and the blood was dissolved for several minutes. When the blood film was light gray, the hemolyzed blood was decanted.

6.3.1 Preparation of Gill's dye solution

The commonly used Gill's dye liquor contains 2%, 3%, and 10% three concentrations, which are buffered by Gill's dye solution and pH 7.2 phosphate.

The liquid (PBS) is prepared in proportion, and can also be purchased in proportion to commercialized Gill's dye solution plus experimental pure water (see Appendix B).

6.3.2 Gibbs dyeing

See Appendix B for dyeing methods.

6.4 Microscopy

Add 1 drop of cedar oil or special immersion oil to the stained blood smear, using 100x (times) oil mirror, 10x(times) eyepiece optical microscopy Mirror inspection. The order of the blood film is observed as the thin blood film starts from the tip of the tail and the thick blood film starts from the upper or lower end (see Appendix A).

6.5.1 Babesia test positive

Babesia was found to be positive in the blood membrane (see Appendix C).

6.5.2.1 Babesia infection rate counting method for thin blood film

The thin blood membrane was examined under a microscope, and the total number of infected red blood cells and red blood cells in each field was more than 2,000. Calculate the bar by the following formula Beetle insect infection rate.

Babesia insect infection rate = Total number of red blood cells Infected red blood cells x 100%.

6.5.2.2 Abdominal blood staining of Babesia

If the rate of infection is less than 0.1%, the whole thick blood film is examined under the microscope, and the number of Babesia and red blood cells of the whole thick blood film are counted.

total. The rate of insect infection of Babesia was calculated by the following formula.

The infection rate of Babesia = x 100% (the number of red blood cells is 5 million/ μ L for men and 4.5 million for women) / μ L blood calculation).

Appendix A

(normative appendix) Operation diagram

Figure A.1 Schematic diagram of the manufacturing process of thick and thin blood film