

ICS 11.020
CCS C 61

WS

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

WS/T 630-2018

**Detection of antibody against *Schistosoma japonicum* - Indirect
haemagglutination test
(English Translation)**

Issued on: September 26, 2018

Implemented on: April 1, 2019

Issued by: National Health Commission

Table of Contents

Foreword	
1 Scope	
2 Terms and definitions	
3 Instruments	
3.1 Benchtop low speed centrifuge	
3.2 Flat Micro Oscillators	
3.3 Electric constant temperature water bath	
3.4 Micropipette	
4 Reagent materials	
4.1 Lyophilized sensitized red blood cells	
4.2 Positive control serum	
4.3 Negative control serum	
4.4 Diluent	
4.5 Hemagglutination plate	
5 Detection steps	
5.1 Sample preparation	
5.2 Sample testing	
6 Result determination	

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. Anhui Institute of Schistosomiasis Control, Chinese Center for Disease Control and Prevention, Institute of Parasitic Diseases Prevention and Control, Zhejiang Institute of Parasitic Diseases, Provincial Academy of Medical Sciences, Jiangsu Institute of Schistosomiasis Control, Jiangxi Institute of Parasitic Diseases.

1 Scope

This standard specifies an indirect red blood cell agglutination test for the detection of *Schistosoma japonicum* antibodies.

This standard applies to the detection of *Schistosoma japonicum* antibodies in human serum by disease prevention and control institutions and medical institutions at all levels.

2 Terms and definitions

The following terms and definitions apply to this document.

Schistosomiasis A disease caused by schistosomiasis parasitic on humans and other mammals, specifically referred to as schistosomiasis in Japan (schistosomiasis) Japonica).

Note: Rewrite GB 15976-2015, definition 3.1 2.2 Indirect haemagglutination test the antigen is coated on the surface of the red blood cells to become a sensitized carrier, and then binds to the corresponding antibody, and is bridged by the antibody, and the naked eye can be seen.

See the agglutination phenomenon to detect the corresponding antibodies in the sample. The most commonly used red blood cells are healthy human "O" type red blood cells.

Soluble egg antigen

The supernatant of the schistosomiasis eggs is treated by homogenization and sonication, and the supernatant is collected by centrifugation, containing various components such as protein, glycoprotein and polysaccharide.

Compound.

3.1 Benchtop low speed centrifuge

The maximum speed is $\geq 2\,500$ r/min, or the maximum relative centrifugal force is ≥ 800 g.

3.2 Flat Micro Oscillators

The highest vibration frequency is 2 800 r/min and the maximum amplitude is 6 mm.

3.3 Electric constant temperature water bath

Temperature control range from room temperature 5 ° C to 99.9 ° C, temperature resolution/fluctuation 0.1 ° C/± 0.5 ° C.

WS/T 628-2018

3.4 Micropipette

The range is from 10 µL to 100 µL in increments of 1 µL; the range is from 100 µL to 1 000 µL in increments of 5 µL.

4.1 Lyophilized sensitized red blood cells

The main components are *Schistosoma japonicum* soluble egg antigen, healthy human "O" type red blood cells and sucrose. See Appendix A for preparation.

4.2 Positive control serum

Rabbit mixed sera infected with *Schistosoma japonicum*, see Appendix A.

4.3 Negative control serum

Normal rabbit mixed serum, see Appendix A.

4.4 Diluent

pH 7.2 phosphate buffer (PBS), see Appendix A.

4.5 Hemagglutination plate

"V" type microporous plexiglass hemagglutination plate is suitable, please refer to Appendix B for the operation procedure.

5.1 Sample preparation

Collect 100 μL of peripheral blood or 2 mL of venous blood. Place at room temperature until the blood clot shrinks. Centrifuge at 800 g for 5 min to separate the serum.

For line detection, see Appendix B.

5.2 Sample testing

5.2.1

The sample numbers to be tested are arranged from left to right in order of 1~n.

5.2.2

Add 100 μL of the diluted serum to the negative control serum and the positive control serum to make it fully dissolved. Pipette several times and mix for use.

5.2.3

Take the blood coagulation reaction plate and use it horizontally and horizontally. Add 100 μL of the diluted solution to the first well of the first column, and add the third and fourth wells of the first column.

25 μL of the dilution, no dilution in the second well.

5.2.4

Add 1 μL of sample 1 to the first well in column 1 and mix well, then aspirate 25 μL to the second well, and then aspirate 25 μL from the first well.

To the third well, mix well and aspirate 25 μL to the 4th well, mix well and aspirate 25 μL to discard.

5.2.5

The same operation, sequential dilution of the second to nth sample, negative control serum, positive control serum, hemagglutination plate longitudinal Serum dilutions to 4 wells were 1.5, 1.5, 1.10, 1.20.

5.2.6

Add 1 mL of diluted solution to each lyophilized sensitized red blood cell, mix well and set aside.

5.2.7

In addition to the serum dilution wells in the first well of each column, the other serum dilution wells were each added with 25 μL of sensitized red blood cell suspension, and the hemagglutination reaction plate was placed in a microvibration.

Shake the shaker for 1 min to 2 min, seal the plate and place it in a 37 °C electrothermal constant temperature water bath for 30 min. Observe the results on a white background, see Appendix B.

WS/T 628-2018

6 Result determination

6.1

See Table C for the criteria for the determination of results. Negative control serum did not show agglutination, and the positive control serum showed agglutination.

It is considered valid.

6.2

The highest dilution of serum agglutinated with "+" or above as the serum titer, with a titer of ≥ 1.10 as the positive criterion quasi.

WS/T 628-2018

Appendix A

(informative appendix) Main reagent material preparation method A.1 freeze-dried sensitized red blood cells A.1.1 soluble egg antigen Take the freeze-dried eggs, prepare a suspension of 0.01% thimerosal chloride, stir the tissue homogenizer and freeze and thaw