

ORDER INFORMATION

Kit Size Cat. No.
4 x 50 ml WIT 1

INTRODUCTION:

Typhoid fever is an acute infectious disease characterized by definite lesions in peyer's patches, mesenteric glands and spleen accompanied by fever, headache and abdominal symptoms. It is also called 'enteric' fever. Most frequent and dangerous complication in the late stages of this fever is intestinal haemorrhage and perforation.

The causative organism of the typhoid fever is a gram negative bacillus, Salmonella. In our country typhoid is commonly caused by Salmonella typhi, S. Paratyphi A and S. Paratyphi B. These organisms possess somatic (O) as well as flagellar 'H' antigens. The three serotypes have common 'O' antigen but possess different 'H' antigens. During infection with these bacteria, antibodies appear in the patient's, within 2 to 5 weeks. A rising titre is highly significant for diagnosis of an active infection.

The detection of these antibodies in suspected patients forms the basis of the 'Widal' test. The antigens used in Widal Kit are standardized, smooth suspensions of killed bacilli, which are stained for their easy identification in agglutination reactions. Two tests procedure are employed. The tube agglutination test is done as a confirmatory test to establish the presence or absence of an homologous antibody.

PRINCIPLE:

When a patient's serum containing antibodies to S. typhi and S. paratyphi is mixed with the respective antigen, agglutination takes place which indicates the presence of antibodies to a particular antigen (O, H, AH, or BH)

SAMPLE COLLECTION AND PRESERVATION

Fresh serum samples should be used.

REAGENT PREPARATION AND STORAGE

The sample can be stored at 2-8°C if not immediately used.

REAGENT STABILITY

All reagents are stable upto the expiry date mentioned on the label when stored at 2-8°C. Do not freeze.

PROCEDURE FOR TUBE METHOD:

1. Take 4 sets of 8 clean dry test tubes (10x75 mm) for "O", "H", A "H" & B"H" antibody detection.
2. Dilute each serum sample as follows:

Test Tube	1	2	3	4	5	6	7	8
Serum Dilution	1:20	1:40	1:80	1:160	1:320	1:640	1:1280	Saline Control
Normal Saline	1.9ml	1ml	1ml	1ml	1ml	1ml	1ml	1ml
Patient's Serum (undivided)	0.1ml	--	--	--	--	--	--	--
Transfer Diluted serum	--	→ 1ml	→ 1ml	→ 1ml	→ 1ml	→ 1ml	→ 1ml	
Appropriate Antigen	0.5 ml	0.5 ml	0.5 ml	0.5 ml	0.5 ml	0.5 ml	0.5 ml	0.5 ml

3. Mix well and then incubate at 37°C for 16 to 20 hrs, and observe for agglutination.
4. 'O' antigen shows granular agglutination and 'H' antigen gives floccular appearance. Note the highest dilution showing clearly visible agglutination with naked eye.
5. saline control should remain unchanged which indicate a negative test.

INTERPRETATION OF RESULTS:

Agglutination titre of 1:80 or more is significant. An increase in Titre, 4 to 5 days after the first test is suggestive of an active infection

NOTES:

1. Individuals vaccinated with TAB vaccine may show moderate titre against all three 'H' antigens.
2. Persons who suffered with enteric fever in the past may show moderate titre when suffering from other unrelated illness. Such anamnesic appearance of agglutination can be identified. If the patient is tested again after few days. Only a rising titre is indicative of true infection.
3. The use of positive, negative and saline controls are recommended along with serum specimen.

BIBLIOGRAPHY

1. Felix A, Brit Med. J. 11, 597 (1942)
2. Protel, R.L. et al, Lancet, 11.330 (1971)
3. Cruicks, R. Medical Microbiology. 12th Edition P. 403 (1982)