CTK BIOTECH
SIMPLIFYING DIAGNOSTICS

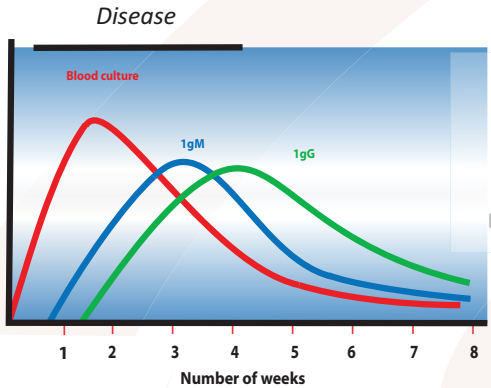
Typhoid IgG /IgM

Reliable & Simple Resource for Screening Salmonella Fever

Detects and differentiates IgG and IgM antibodies to both *S. Typhi* and *S. Paratyphi* in a single test device

Current methods for diagnosing salmonella (*Typhi* & *Paratyphi*) fever are predominantly blood culture or the Widal test. Blood culture tests, performed in laboratories, take approximately 3-4 days to develop results and are therefore unpractical for screening patients in endemic environments. The Widal test is time consuming, requiring multiple steps often resulting in delayed or mis-diagnosis and misuse of antibiotics.

There is an unmet need for a fast, simple, and reliable screening test that can be used in ill-equipped medical care settings.



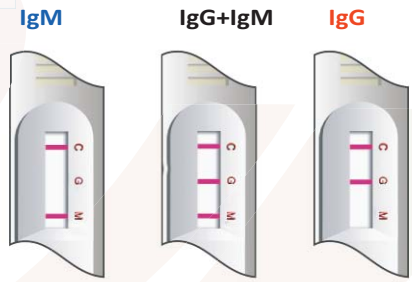
Immunological Response Post *S. Typhi* Infection

CTK offers fast, reliable and simple test kits for screening *Typhi-Paratyphi* fever:

OnSite Typhoid IgG /IgM (Combo) Rapid Test

- Utilizes O antigen and H antigen from both S. *Typhi* & *S. Paratyphi*
- Detects and differentiates IgG and IgM antibodies produced after exposure to *S. Typhi* and *Paratyphi* in the same test device.
- One step procedure minimizes operator error due to sample preparation.
- The test result is obtained in 15 minutes which allows doctors to take immediate action.
- Test can be performed by health care providers with minor training and without equipment.
- Test kits tolerate a wide range of temperature and working environments.

KH
http://www.kimhung.vn



OnSite Typhoid IgG/IgM Rapid Test Result

OnSite Typhoid IgG/IgM Rapid Test

Catalog	Product	Detection	Sample	Test Time
R0160C	Typhoid IgG/IgM Rapid Test , cassette CE	3 line test to detect and differentiate IgG & IgM to *S. Typhi* & *S. Paratyphi*	S,P,	15 mins
R0160S	Typhoid IgG/IgM Rapid Test , strip CE		S,P,	15 mins
R0161C	Typhoid IgG/IgM Combo Rapid Test CE	3 line test to detect and differentiate IgG & IgM to *S. Typhi* & *S. Paratyphi*	S,P, WB	15 mins

CTK
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Comparison of Salmonella Fever Diagnostic Tests on the Market

Parameter \ Test	Blood Culture	Widal Test	Tubex IgM Test	*OnSite* Typhoid IgG/IgM Rapid Test
Principle	Live bacterial replication	Agglutination immunoassay	Competitive immunoassay	Lateral flow Immunoassay
Antigen used	N/A	*S. Typhi* & *S.Paratyphi* O and H antigens	*S. Typ*hi O antigen	*S. Typhi* & *S.Paratyphi* O and H antigens
Test procedure	1. Culture blood in broth from pro-enrichment 2. Dual selection enrichment 3. Dual plating. Total 3-4 day procedure	1. Pre-dilute specimen to a series of 8 dilutions 2. Add O, H, AH, BH Widal Test reagents to all of the 8 tubes 3. Incubate at 37°C overnight	1. Add Reagent A to test tube 2. Add specimen to the tube 3. Add Reagent B to the tube 4. Shake for 2 minutes 5. Separation by magnet	1. Add specimen to the test device 2. Add Sample Diluent to the test device Read result in 15 mins
Result reading	Traditional or biochemical identification	Visually observe sediments	Visually observe color change	Visually observe colored IgG or IgM band
Requirement	• Incubator • Electricity • Trained personnel	• Dedicated lab staff • Tubes, water bath or incubator	• Shaker • Magnet • Minimal training	• No equipment required • Minimal training
Comments	• Gold Standard method • Not a screening test	• Time consuming • Prone to operator error • Losing its relevance in western and European nations • Cro ss reactive • The most over-utilized test	• Fast but expensive. • Does not detect *S. Paratyphi* • Does not detect IgG antibodies at latent or chronic status	• Fast & inexpensive • Can be used and stored in a wide range of temperatures • Detects both *S. typhi* & *Paratyphi* infections • Detects latent or chronic infection • High reproducibility

OnSite Typhoid IgG/IgM Rapid Test Performance (3rd party evaluations)

Country		China	Indonesia	Madagascar	Pakistan
Specimens		11 *Typhi*, 9 *Paratyphi A*	60 *Typhi - Paratyphi*	20 Suspicious specimens	20 Suspicious specimens
Reference Test	Test	Blood culture	Widal test	Widal test	Tubex IgM test
	Result	100% Positive	69% Positive (H)	20% Positive (H)	100% Positive
OnSite Typhoid IgG/IgM Rapid Test		95% Positive	88% IgG Positive	30% IgG Positive	100% Positive via extended protocol

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