Dengue can be Diagnosed & CONFIRMED by:

**ELISA RANGE:**
- NS1 ANTIGEN ELISA Test
  Dengue NS1 Ag Microlisa
- MAC ELISA Test
  Dengue IgM Microlisa
- GAC ELISA Test
  Dengue IgG Microlisa

**RAPID RANGE:**
- NS1 Antigen and IgM & IgG antibody Rapid Test
  Dengue DAY1 Test
- NS1 Antigen Rapid Test
  Advantage Dengue NS1 Ag Card

**POCT TEST:**
- NS1 Antigen (FINGER PRICK) Test
  Dengue NS1 Antigen FP

**FLUORESCENCE BASED TEST:**
- Dengue NS1 Antigen (FIA Test)
  Dengue NS1 Ag Quanti Card
- Dengue Antibody (FIA Test)
  Dengue IgM Quanti Card
  Dengue IgG Quanti Card
Dengue is the most rapidly spreading mosquito-borne disease in the world. The key to handle dengue infection is its early recognition and understanding of the clinical problems during the different phases of the disease, leading to a rational approach to case management and good clinical outcome (Figure 2.1).

Dengue infection is the systematic and dynamic disease. After the incubation period, the illness begins abruptly and is followed by the 3 phases - febrile, critical and recovery (Figure 2.1).

**NS1 ANTIGEN** (Figure 4.1)
As can be observed from Figure 4.1, during early stage of disease, Antigen Detection can be used to diagnose the infection.

Detection of NS1 antigen is important for early and accurate diagnosis of dengue. NS1 Antigen can be detected from approximately Day 1 to Day 7 of fever setting in.

**IgM ANTIBODIES** (Figure 4.1)
Antibody response to infection differs according to the immune status of the host. In primary infection, IgM antibodies become detectable about 5-6 days after onset of disease. When the viremia declines, IgM level rises quickly to reach peak in about 2 weeks.

In secondary infection, IgM antibodies become detectable about 4-5 days and their levels are comparatively low.

**IgG ANTIBODIES** (Figure 4.1)
In primary infection, Antibody production of IgG will be at a lower level when compared to IgM. IgG antibodies are generally detectable at low levels in about 11-12 days and increase slowly and remain detectable after several months and probably even for life.

In secondary infection, the IgG antibody level rises quickly reaching to peak in about 2 weeks after the onset of symptoms and may persists for years.

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For Educational Purpose only.

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**FIGURE 4.2 COMPARISON OF DIAGNOSTIC TESTS ACCORDING TO THEIR ACCESSIBILITY AND CONFIDENCE***

<table>
<thead>
<tr>
<th>Accessibility</th>
<th>Direct Methods</th>
<th>Indirect Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>NS1 detection</td>
<td>Serology IgM</td>
<td>Serology IgG</td>
</tr>
<tr>
<td>Serum isolation</td>
<td>Genome detection</td>
<td></td>
</tr>
</tbody>
</table>


**TEST PRINCIPLE**

- **Microwells pre-coated with Anti-Dengue NS1 Antibodies**
- **Binding of Dengue NS1 antigen with Anti-Dengue NS1 antibody**
- **Addition of Anti-Dengue NS1 antibody linked to HRPO (Enzyme Conjugate)**
- **Addition of Chromogenic Substrate**
- **Addition of Stop Solution and final reading of results at 450 nm / 630 nm**

**TEST PROCEDURE**

1. **Prepare working conjugate solution**
   - Enzyme Diluent (µl): 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
   - Enzyme Concentration (µg): 20, 40, 60, 80, 120, 140, 160, 180, 200, 220, 240

2. **Add 100 µl working conjugate in each well**

3. **Cover the plate and incubate for 90 min. at 37ºC**

4. **Prepare working substrate solution**
   - TMB: 0.8, 1.6, 2.4, 3.2, 4.0, 4.8, 5.6, 6.4, 7.2, 8.0, 8.8, 9.6
   - Enzyme Diluent (µl): 0.8, 1.6, 2.4, 3.2, 4.0, 4.8, 5.6, 6.4, 7.2, 8.0, 8.8, 9.6

5. **Add 150 µl working substrate in each well**

6. **Incubate in dark for 30 min at room temperature. (20ºC - 30ºC)**

7. **Add 100 µl Stop Solution and read result at 450 nm/630 nm.**

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**Dengue NS1 Ag Microlisa**

**Microwell ELISA Test for the Detection of Dengue NS1 Antigen in Human Serum/ Plasma**

**Sensitivity:** 99.5%

**Specificity:** 100%

**Direct test method for Detecting infection with Dengue NS1 Ag**

**Excellent sensitivity against all the 4 serotypes of Dengue Virus Antigen**

**Significant reduction of Window period**

**Based on Direct Sandwich ELISA**

**No sample dilution is required**

**Long Shelf Life: 18 months at 2-8ºC**

**Color Coded reagent**

**Convenient Packsize: 48 Tests & 96 Tests**
**Dengue IgG Microlisa**

**MAC ELISA (Capture Principle)** Test for the Detection of Dengue IgG Antibodies in Human Serum/Plasma

**Dengue IgM Microlisa**

**GAC ELISA (Capture Principle)** Test for the Detection of Dengue IgM Antibodies in Human Serum/Plasma

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**TEST PROCEDURE**

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dilute sample (1:100)</strong></td>
<td>Sample 10 µl + sample diluent 1000 µl</td>
</tr>
<tr>
<td><strong>Add 100 µl control, calibrator &amp; diluted sample in respective wells.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cover the plate and incubate for 60 min. at 37ºC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Wash (5 cycles)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prepare working conjugate solution (1:10)</strong></td>
<td>No. of strip</td>
</tr>
<tr>
<td><strong>Add 100 µl working conjugate in each well</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Cover the plate and incubate for 60 min. at 37ºC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Wash (5 cycles)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prepare working substrate solution</strong></td>
<td>No. of strip</td>
</tr>
<tr>
<td><strong>Add 100 µl working substrate in each well</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Incubate in dark for 30 min at room temperature.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Add 50 µl Stop Solution and read result at 450 nm/630 nm.</strong></td>
<td></td>
</tr>
</tbody>
</table>

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**TEST PRINCIPLE**

**Microwells pre-coated with Anti-Human IgM/ IgG Antibodies**

**IgM/ IgG Antibodies bind with Anti-human IgM/ IgG Antibodies respectively**

**Binding of Dengue Antigen conjugated with HRPO (Enzyme Conjugate)**

**Addition of Substrate**

**Addition of Stop Solution and final reading of results at 450 nm / 630 nm**

---

**Principle**: "**Advance Capture**" ELISA

- Enzyme conjugate concentrate, liquid stable for 18 months, easy to use, no wastage
- Excellent Sensitivity against all 4 serotypes of Dengue
- High signal to noise ratio
- Color Coded reagents to monitor procedural steps
- Long shelf Life: 18 months at 2-8ºC
- Unique Break-away wells
- Convenient Packsize: 48 Tests & 96 Tests

---

**Sensitivity**: 99.13%

**Specificity**: 99.84%
RAPID TEST

Rapid visual test for the detection of Dengue NS1 Antigen and differential detection of IgM & IgG antibodies in Human Serum/ Plasma

- First-Line Testing Kit for Dengue diagnosis
- Rapid visual test for Dengue NS1 Antigen and IgM & IgG Antibodies detection
- Diagnosis of both Primary & Secondary Infection
- Detects all 4 serotypes of Dengue Virus
- Highly Sensitive & Highly Specific
- Long Shelf Life 24 months at 2-30°C
- Convenient Packsize: 10 Tests, 30 Tests & 50 Tests

Why Dengue DAY1 Test, Antigen & Antibody (Combi test) is more Reliable in Dengue Diagnosis

Study highlights that using dengue NS1 antigen detection in combination with IgM and IgG serology can significantly increase the sensitivity of acute dengue diagnosis and extends the possible window of detection to include very early acute samples and enhances the clinical utility of rapid immunochromatographic testing for dengue.

Source: RESEARCH ARTICLE: The Diagnostic Sensitivity of Dengue Rapid Test Assays Is Significantly Enhanced by Using a Combined Antigen and Antibody Testing Approach
www.plosntds.org/article/info%3Adoi%2F10.1371%2Fjournal.pntd.0001199

POCT (Point of Care) TEST

Finger Prick quick visual test for the detection of Dengue NS1 Antigen in Human Whole Blood/ Serum/ Plasma

- Point of Care Test (POCT)
- Finger Prick quick visual test for detection of Dengue NS1 Antigen
- Results within 20 minutes
- From DAY1 of the fever, It detects all 4 serotypes of Dengue Virus
- Highly Sensitive & Highly Specific
- Individually pouched test device
- Longer Shelf Life: 24 Months At 2-30°C
- Patented Product: Patent No.: 262648
- Prompt Service Backup
- Convenient Packsize: 10 Tests

DENGUE DAY1 TEST

Finger Prick quick visual test for the detection of Dengue NS1 Antigen in Human Whole Blood/ Serum/ Plasma

Dengue NS1 Ag:
- Sensitivity: 96%  Specificity: 98%

Dengue IgM/IgG antibody:
- Sensitivity: 95%  Specificity: 97%

Haven't found the answer you were looking for? Reach out to us for prompt service backup.

**Patented Device for Dengue NS1 Ag
*Patented Device for Dengue IgM & IgG Antibody Card
DENGUE NS1 Ag
Quanti Card
Fluorescence immunoassay for qualitative
detection of Dengue NS1 Antigen
in Human Serum/ Plasma

- Principle: Based on most advanced
  fluorescence immunoassay method
- Individually pouched test cartridge, each cartridge is precision
  engineered with embedded lot data.
- Results within 30 Minutes
- Sensitivity: 100%* &
  Specificity: 98.38%*
  (In comparison with ELISA Test)
- Long Shelf Life: 18 Months at 2-8°C
- Available Packsize: 24 & 48 Tests

* Source: https://doi.org/10.20546/ijcmas.2017.611.061, Table-3, Page- 510

DENGUE IgM
Quanti Card
Fluorescence immunoassay for the qualitative
measurement of Dengue IgM Antibodies
in Human Serum/ Plasma

- Principle: Based on most advanced
  fluorescence immunoassay method
- Individually pouched test cartridge, each cartridge is precision
  engineered with embedded lot data.
- Results within 40 Minutes
- Sensitivity: 96.72% &
  Specificity: 97.45%
  (In comparison with ELISA Test: Dengue IgM Microlisa)
- Long Shelf Life: 18 Months at 2-8°C
- Available Packsize: 24 & 48 Tests

DENGUE IgG
Quanti Card
Fluorescence immunoassay for the qualitative
measurement of Dengue IgG Antibodies
in Human Serum/ Plasma

- Principle: Based on most advanced
  fluorescence immunoassay method
- Individually pouched test cartridge, each cartridge is precision
  engineered with embedded lot data.
- Results within 40 Minutes
- Sensitivity: 97.23% &
  Specificity: 97.36%
  (In comparison with ELISA Test: Dengue IgG Microlisa)
- Long Shelf Life: 18 Months at 2-8°C
- Available Packsize: 24 & 48 Tests

For further enquiries, please contact:
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