DENGUE
A Continuing Global Threat.....

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

Also Available:

RAPID RANGE
NS1 ANTIGEN and IgM & IgG antibody Rapid Test
Dengue DAY1 Test

NS1 ANTIGEN Rapid Test
Advantage Dengue NS1 Ag 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 4.2).

Detection of NS1 is important for early and accurate diagnosis of dengue. NS1 Ag can be detected fromday 1 to day 7 of fever setting in.

**TEST PRINCIPLE**

Microwell pre-coated with Anti-Dengue NS1 Antibody

*Binding of Dengue NS1 Ag with Anti-Dengue NS1 antibody

*Addition of Anti-Dengue NS1 antibody linked to HRP (Enzyme Conjugate)

*Addition of Chromogenic Substrate

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

**TEST PROCEDURE**

*Prepare working substrate solution

*Incubate in dark for 30 min at room temperature.

*Wash 6 cycles

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

**Sensitivity:** 99.5%

**Specificity:** 100%

**TEST PROCEDURE**

*First-line Testing Kit 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

*Color Coded reagent

*Convenient Packsize: 48 Tests & 96 Tests

**Sensitivity:** 99.13%

**Specificity:** 99.84%

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**Dengue course of illness & approximate time-line of Primary and Secondary antibodies formation**

Time-line of Primary and Secondary antibodies formation

<table>
<thead>
<tr>
<th>Days of illness</th>
<th>Serology and virology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Onset of virus shedding</td>
</tr>
<tr>
<td>2</td>
<td>NS1 Ag detection is the method of choice</td>
</tr>
<tr>
<td>3</td>
<td>Dengue course of illness, reaching to peak in about 2 weeks after the onset of symptoms</td>
</tr>
<tr>
<td>4</td>
<td>Dengue is the most rapidly spreading mosquito-borne disease in the world</td>
</tr>
<tr>
<td>5</td>
<td>Antibody response to infection differs according to the immune status of the host</td>
</tr>
<tr>
<td>6</td>
<td>Hematocrit decreases slowly and remains detectable after several months</td>
</tr>
<tr>
<td>7</td>
<td>Sensitivity to infection with Dengue NS1 Ag</td>
</tr>
<tr>
<td>8</td>
<td>Specificity to infection with Dengue NS1 Ag</td>
</tr>
<tr>
<td>9</td>
<td>Antibody response to infection differs according to the immune status of the host</td>
</tr>
</tbody>
</table>

**Dengue NS1 Ag Microlisa**

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

**TEST PRINCIPLE**

Microwell pre-coated with Anti-Dengue NS1 Antibody

*Binding of Dengue NS1 Ag with Anti-Dengue NS1 antibody

*Addition of Anti-Dengue NS1 antibody linked to HRP (Enzyme Conjugate)

*Addition of Chromogenic Substrate

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

**TEST PROCEDURE**

*Prepare working substrate solution

*Incubate in dark for 30 min at room temperature.

*Wash 6 cycles

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

**Sensitivity:** 99.5%

**Specificity:** 100%

**TEST PROCEDURE**

*First-line Testing Kit for Detecting infection with Dengue NS1 Ag

*Excellent sensitivity against all the 4 serotypes of Dengue

*Highly sensitive in case of Primary infection

*High signal to noise ratio

*Color Coded reagents to monitor procedural steps

*Unique Break-away wells

*Prompt Service Back-up

*Convenient Packsize: 48 Tests & 96 Tests

**Sensitivity:** 99.13%

**Specificity:** 99.84%
**TEST PRINCIPLE**

- Microwells pre-coated with Anti-Human IgG Antibodies
- IgG Antibodies bind with Anti-human IgG Antibodies
- 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

**TEST PROCEDURE**

**TEST PROCEDURE**

<table>
<thead>
<tr>
<th>Dilute sample (1:100) sample 10 µl + sample diluent 1000µl</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Add 100 µl control, calibrator &amp; diluted sample in respective wells.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover the plate and incubate for 60 min. at 37°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash (5 cycles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare working conjugate solution (1:10)</td>
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<td></td>
</tr>
<tr>
<td>Add 100 µl working conjugate in each well excluding A1 well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cover the plate and incubate for 60 min. at 37°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wash (5 cycles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare working substrate solution ✻</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add 100 µl working substrate in each well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incubate in dark for 30 min at room temperature.</td>
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<td></td>
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<tr>
<td>Add 50 µl Stop Solution and read result at 450 nm/630 nm.</td>
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</tbody>
</table>

**Sensitivity:** 98.66%  
**Specificity:** 99.93%

- Principle: "Advanced Capture" ELISA (GAC ELISA)
- Excellent Sensitivity against all 4 serotypes of Dengue
- Highly sensitive in case of secondary infection
- High signal to noise ratio
- Color Coded reagents to monitor procedural steps
- Unique Break-away wells
- Prompt Service Back-up
- Convenient Packsize: 48 Tests & 96 Tests

**Dengue DAY1 TEST**

- 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 18 months at 2-30ºC

**TEST PROCEDURE**

- **For Dengue NS1 Antigen device**
  - Add 2 drops (70 µl) of sample (serum/ Plasma) using Dengue Antigen Test sample dropper to the sample well of antigen device. Read result at 20 minutes.
  - Important Note: Discard the DENGUE DAY 1 TEST (Antigen & Antibody device) immediately after reading results as it may be potentially infectious.

- **For Dengue IgM & IgG device**
  - Add 2 drops of dengue antibody buffer to the buffer well of the device and read results at 20 minutes.

**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.

**Sensitivity:** 100%  
**Specificity:** 99.91%

Source: RESEARCH ARTICLE: The Diagnostic Sensitivity of Dengue Rapid Test Assays Is Significantly Enhanced by Using a Combined Antigen and Antibody Testing Approach

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