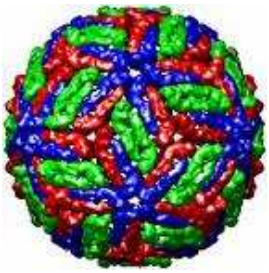
NovaTec
Immundiagnostica GmbH

# Dengue Virus



Dengue virus is the causative agent of dengue fever and dengue hemorrhagic fever (DHF).

This Virus belongs to the flavivirus family (Flaviviridae). It shows an icosahedral capsid and closefitting, spiked envelope. The size of the capsid is about 30 nm and the whole virion measures 50 nm. 4 different serotypes exist (DEN-1, DEN-2, DEN-3 and DEN-4), whereas an infection of one serotype doesn't lead to an immunity against the other serotypes.

Humans are the only known main hosts for the Dengue virus. The pathogen is transmitted by mosquitoes (Aedes aegypti). The virus causes diseases of different levels of severity. The infections are typically biphasic with an initial, not very characteristic phase, including fever, headache, muscle pain and - in some cases - exanthema (Dengue fever). This phase includes a pronounced viremia. The illness, in this stage often not recognized as a dengue virus infection, may then be over or may progress after 1-3 days to a second, severe clinical picture: a hemorrhagic fever with a high lethality rate involving hemorrhages and intravasal coagulation, so called Dengue hemorrhagic fever or Dengue shock syndrome, depending on the predominant characteristics (see tab.).

In southern and eastern countries (mainly in West Africa, Pacific, South and Southeast Asia, Caribbean, Venezuela, Colombia and Brazil) these viruses are significant human pathogens.

| Species | Disease | Symptoms | Mechanism of infection |
|---|---|---|---|
| Dengue Virus | Dengue fever | After an incubation phase of 1-2 weeks ague, fever, headache, muscle pain and in some cases exanthema occur. After 7 days the illness is over. | Transmission by mosquitoes (Aedes aegypti) |
| | Dengue hemorrhagic fever (DHF) or Dengue shock syndrome (DSS) | With a high lethality rate involving hemorrhages and intravasal coagulation. Weak rapid pulse, narrow pulse pressure | |

Infections may be diagnosed by:

Microscopy: Determination of the isolated virus.
Serology: Determination of specific antibodies based on the ELISA-technique.

## NovaLisa™ Dengue IgG/IgM ELISA:

The NovaLisa™ Dengue IgG/IgM ELISA is intended for the qualitative determination IgG-/IgM-class antibodies against Dengue viruses in human serum or plasma (citrate).

**Antigens:**

Purified Dengue Virus 2 antigens from strain 16681.

## Specific performance characteristics:

| | Intraassay | | | Interassay | | | Sensitivity % | Specificity % |
|---|---|---|---|---|---|---|---|---|
| | n | Mean | CV % | n | Mean | CV % | | |
| IgG | 8 | 0,98 | 4,34 | 8 | 0,47 | 6,76 | > 90 | 93 |
| IgM | 7 | 0,97 | 3,1 | 20 | 1,18 | 4,8 | 90 | 97,6 |

## Order information:

| ELISA | Number of determinations | Product number |
|---|---|---|
| Dengue IgG | 96 | DENG0120 |
| Dengue IgM | 96 | DENM0120 |