



---

Real-time PCR-based detection of viral DNA: a novel method for molecular diagnosis of dengue and chikungunya. Molecular assays for the diagnosis of viral infections, particularly of the flavivirus family, have been under development since the late 1980s. Early reports showed that detection of viral RNA is insufficient to confirm the infecting virus, as some of the viruses have negative-strand RNA genomes. The introduction of a single-strand DNA probe assay, polymerase chain reaction (PCR), made it possible to obtain accurate diagnoses of a wide range of viral diseases. This method also allowed detection of subviral genome and antigen levels, for which it is generally considered a new way of measuring viral infection. We tested the reliability of real-time PCR (TaqMan) for detection of dengue and chikungunya virus genomes in sera and plasma samples. The assay was performed using the LightCycler (LC) platform, which allowed determination of the threshold cycle (Ct) values, along with automatic calculation of the number of genome equivalents in the sample. The Ct values for the sera and plasma samples were very similar. Using the LC platform, it was possible to detect chikungunya virus genome in sera of all patients (8/8), chikungunya virus genome and antigen in the plasma of all patients (6/8), and dengue virus genome in the plasma of 3/8 patients with primary and 5/8 with secondary infections. This technology is currently used for nucleic acid diagnostic testing and for the follow-up of patients. 2d92ce491b