G00002

21st June 2003

ABSTRACT

162162

Detection and identification of dengue and other flaviviruses using NS3 primers

The design (or synthesis) of two new consensus primers (DVCU and DVCD) for the polymerase chain reaction (PCR) is based on conserved motifs within the serine protease and RNA helicase domains encoded by the NS3 genes of dengue and other flaviviruses. Target fragments of 470 base pairs are amplified from cDNA templates of dengue types 1, 2, 3 and 4, Japanese encephalitis, Kunjin and yellow fever viruses. DVCU and DVCD primers can also serve as DNA sequencing primers. Four new unique type-specific primers (DSP1, DSP2, DSP3 and DSP4) are also designed for typing (and sequencing) dengue virus types 1, 2, 3 and 4, yielding PCR products of diagnostic sizes 169, 362, 265 and 426 base pairs respectively, when used with DVCU primer. These new consensus and type-specific primers represent useful tools for the molecular diagnosis and epidemiology of dengue and other flaviviral infections.