CMV R-gene™ and the candidate 1st WHO International Standard for Human Cytomegalovirus: Standardization of nucleic acid amplification techniques.

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Introduction
The human cytomegalovirus (HCMV) is an ubiquitous infection with high prevalence worldwide. It causes disease in immunocompromised hosts, such as organ transplant and AIDS patients, and it is also important in the diagnosis of congenital infections as well as in the diagnosis of other infections. The management of HCMV infections is done mainly in immunocompromised individuals who are managed through the administration of antiviral agents, however, all are associated with toxicity with prolonged use.

HCMV is detected by a variety of techniques, including virus isolation, antigen detection, and nucleic acid amplification by real-time PCR platforms. These techniques are widely used in clinical laboratories for the diagnosis of HCMV infection and for monitoring the efficacy of antiviral therapy. However, there is a lack of a standardized reference system for HCMV, which makes it difficult to compare viral load measurements between different laboratories and to establish a consensus policy for the management of HCMV infection.

The HCMV WHO standard allows for all quantification values to range between 3.64 and 3.73, with a coefficient of variation of 0.37%.