

## Quantitation of reduced glutathione and cysteine in human immunodeficiency virus-infected patients

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Plasma viral load (VL) values and CD4<sup>+</sup> cell count are employed clinically for initiation of therapy in the treatment of patients infected with human immunodeficiency virus (HIV), as previous clinical studies have shown a marked prevalence of acquired immunodeficiency syndrome (AIDS) development in seropositive individuals with VL values over 30 000 copies/mL. Many studies have shown that reduced glutathione (GSH) and cysteine (Cys) deficiency play an important role in the infection. We have developed capillary zone electrophoresis (CZE)-based assays and have used them to investigate the relationship between plasma and intracellular thiol levels and HIV-1 viremia in plasma. Blood samples from healthy volunteers and seropositive patients undergoing different antiretroviral regimens were analyzed in the study. The VL assay was based on CZE-UV detection of viral RNA at 260 nm. Determination of endogenous reduced Cys and GSH was achieved by CZE-UV detection of their mercurial complexes at 200 nm. We found that a decrease in GSH and Cys levels may be associated with disease progress. In fact, reduced GSH and Cys levels appear progressively reduced with increasing VL.

