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### Advances in molecular analysis in HTLV infection

**Carolina Rosadas de Oliveira**  
Universidade Federal do Rio de Janeiro, Brazil

**H**TLV is a sexually transmitted retrovirus endemic in several countries/continents. The great majority of infected individuals remain asymptomatic. However, 1-5% of infected individuals may develop clinical presentation such as HAM/TSP and LLTA. The laboratory diagnosis of this infection is based on immunoassays. These techniques have several disadvantages, as indeterminate results. In such cases, molecular biology techniques are an alternative. Beyond qualitative results, real-time PCR can quantify proviral load, which may help to assess disease progression. Furthermore, molecular analysis also permits evaluation of the genetic diversity of circulating HTLV. Until today, there are no studies regarding HTLV-1 strains in Rio de Janeiro, Brazil. The present study aim to present a TaqMan real-time PCR assay for HTLV-1 proviral load detection in PBMCs and determine the genetic diversity of HTLV-1 strains isolated from asymptomatic (n=7) and HAM/TSP (n=14) individuals (RJ, Brazil). PBMCg DNA from 27 seropositive and 23 seronegative samples were analyzed. All of the positive samples amplified the target gene. All negative samples amplified only the control gene. The assay presented 100% specificity and sensibility. The intra- and inter-assay variability was 2.4% and 2.2%. The qPCR efficiency, slope and correlation coefficients were acceptable. The limit of detection was 1 copy/rxn. This assay can reliably quantify HTLV-1 proviral load. For genetic diversity analysis LTR region were amplified by nested PCR. The product were purified and directly sequenced. Twenty patients samples belong to Cosmopolitan subtype Transcontinental (A) subgroup. One HTLV-1 from an asymptomatic individual was classified in the Japanese subgroup (B) of Cosmopolitan subtype.

#### Biography

Carolina Rosadas de Oliveira has completed her MSc from Instituto Oswaldo Cruz and is a PhD student from Universidade Federal do Rio de Janeiro. She is the professor of Virology and Molecular Biology at Universidade Estácio de Sá, and has been serving as an editorial board member of *repute*.

[carolrosadas@gmail.com](mailto:carolrosadas@gmail.com)