

## Haplotypes of the Human Leukocyte Antigen-G Different HIV-1 Groups from the Netherlands

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**Abstract :** The Human leukocyte antigen-G (HLA-G) molecule plays an important role in immunomodulation. To date, 16 untranslated regions (UTR) HLA-G haplotypes have been previously defined by sequenced SNPs in the coding region. From these, UTR-1, UTR-2, UTR-3, UTR-4, UTR-5, UTR-6 and UTR-7 are the most frequent 3'UTR haplotypes at the global level. UTR-1 is associated with higher levels of soluble HLA-G and HLA-G expression, whereas UTR-5 and UTR-7 are linked with low levels of soluble HLA-G and HLA-G expression. Human immunodeficiency virus type 1 (HIV-1) infection results in the progressive loss of immune function in infected individuals. The virus escape mechanism typically includes T lymphocytes and NK cell recognition and lyses by classical HLA-A and B down-regulation, which has been associated with non-classical HLA-G molecule up-regulation, respectively. We evaluated the haplotypes of the HLA-G 3' untranslated region frequencies observed in three HIV-1 groups from the Netherlands and their susceptibility to develop infection. The three groups are made up of mainly men who have sex with men (MSM), injection drug users (IDU) and a high-risk-seronegative (HRSN) group. DNA samples were amplified with published primers prior sequencing. According to our results, the low expresser frequencies show higher in HRSN compared to other groups. This is indicating that 3'UTR polymorphisms may be identified as potential prognostic biomarkers to determine susceptibility to HIV.

**Keywords :** Human leukocyte antigen-G (HLA-G) , men who have sex with men (MSM), injection drug users (IDU), high-risk-seronegative (HRSN) group, high-untranslated region (UTR)

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