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Mini-review

Role of endogenous retroviruses in human immune disorders and simian evolution

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Various endogenous retroviruses (ERVs) have infiltrated the genomes of simians and humans as they evolved. Different types of ERVs have endogenised in the primates throughout their evolutionary journey and serve as crucial indicators in defining the phylogeny of their hosts. The ERVs also play a crucial role in various immune disorders through their active particles, such as the production of autoantigens in cases of autoimmunity-like scenarios. Instead of acting through their particles, some ERV sequences directly influence immunoregulatory genes. Furthermore, genetic variation in these ERV sequences regulates the linked genes and influences their evolutionary fitness. The *CD5* and *FABP7* genes are directly impacted by ERV sequences and are associated with leukaemia. ERV, linked to both of these genes, plays two distinct roles: it influences the immune system and determines phylogeny. By keeping these two genes in mind, this review has explored the ERVs-immunity axis, ERVs' role in Simian phylogeny, and their conclusive impact on human health.

Keywords: Endogenous retrovirus, Simians, Phylogeny, *CD5*, *FABP7*, Leukaemia