



Endogenous Retroviruses and Hodgkin's lymphoma

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Reactivation of endogenous retrovirus (ERV) elements in Hodgkin's lymphoma (HL) has been considered a pathogenetic factor, and expression of ERV related transcripts has been observed in HL cell lines. On the other hand, expression of the majority of known ERV loci in HL cells is not significantly different from that of normal B cells. We performed comparative gene expression profiling of HL cells and normal blood cells and assessed a possible association between gene expression and ERV activity by filtering probe sets located in the vicinity of ERV sequences. Among the ERV associated genes with high expression in HL we found well-known HL-associated genes such as the cancer/testis antigen 45A family as well as new HL associated genes. We validated these results by polymerase chain reaction and could identify new ERV-defined alternative transcription start sites in HL-associated genes using a modified SMART (switching mechanism at 5' end of RNA transcript) technique, indicating that ERVs can act as alternative promoters in HL cells.