

Poster presentation

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## HIV-1 infection increases the expression of several HERV families

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### Background

Approximately 8-9% of the human genome is composed of endogenous retroviral elements (HERVs). There is some evidence that HERVs may contribute to pathogenic conditions such as cancer, autoimmune diseases, and neurological disorders. Although most HERVs are silenced they may be reactivated by environmental influences.

Furthermore these results suggest a correlation between activation of HERV-elements and HIV-productivity in infected cells.

### Materials and methods

To examine the effect of exogenous viruses such as HIV-1 on the transcriptional activity of HERVs we used a retrovirus *pol* specific microarray.

### Results

We compared the HERV expression profiles of three chronically HIV-1 infected cell lines (T-cells, epithelial cells and astrocytes) that differ in their levels of HIV-1 virus production. Several HERV elements belonging to class I and II HERV families were found to be upregulated in these cell lines. Real-Time PCR analysis confirmed these data. After treatment with the HIV-1 specific siRNAs the expression of the HERV elements was decreased.

### Conclusion

Our data demonstrate that HIV protein expression leads to alterations in HERV transcriptional activity patterns in human cells of different origin.