# DAREMUS
## Dansk Selskab for Forskning i Multipel Sklerose

**Abstract form:** Max 350 ord (punkt 3 – 6) på max én A4 side

**Ønsker deltagelse i foredragskonkurrencen (4 abstracts udvælges): JA ( ) ; NEJ ( X )**

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ARE ENDOGENOUS RETROVIRUSES IMPORTANT IN HUMAN AUTOIMMUNITY?

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Endogenous retroviruses are retroviral sequences that have integrated into the genome of a species. The human genome contains 100 000 such sequences (HERVs). Most are grossly defective, but approximately 50 can encode a viral protein. An example is HERV-Fc1, which integrated in the pre-human genome 10 – 15 million years ago. We know that because the same sequence is present in human, chimpanzee and gorilla DNA, but not in orangutan DNA.

We have looked for involvement of the endogenous retroviruses, which can encode a protein, in the human autoimmune diseases Multiple Sclerosis, Type 1 Diabetes, and Rheumatoid Arthritis by associating SNP markers in or near the retroviral sequences with disease. The studies involved sets of DNA from 400 – 1200 Danish cases and 450 controls. We found that in all three diseases, sets of retroviral sequences associated with disease. Moreover, the markers in question synergized strongly in disease.

In Multiple Sclerosis it was a pair of sequences, HERV-Fc1 on chromosome X and HERV-K13 on Chromosome 19. In Type 1 Diabetes it was a pair of HERV-Ks, one on chromosome 3 and one on chromosome 12. In Rheumatoid Arthritis it was 3 retroviral sequences, a HERV-K on chromosome 22, a HERV-H also on chromosome 22 and again HERV-Fc1 on chromosome X.

We hypothesize that the sets of retroviruses complement each other or recombine to set up an infectious process in the individual. The resulting viruses may then activate preexisting autoimmune lymphocytes to grow and attack the target tissues.

**Deadline for indsendelse af abstract til: Henrik.Boye.Jensen@rsyd.dk SENEST 15. februar 2016.**