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HIV-1 Nef protein carries multiple epitopes suitable for induction of cellular immunity for an HIV vaccine in Africa

Athina Kilpelainen[1], **Rebecca Axelsson Robertson**[2], **Thomas Leitner**[4], **Eric Sandström**[3], **Markus Maeurer**[2] and **Britta Wahren**[1]
[1]Karolinska Institutet, Sweden
[2]Karolinska Institutet and CAST, Karolinska Hospital, Stockholm, Sweden
[3]Karolinska Institutet, Stockholm, Sweden
[4]Los Alamos National Laboratory, USA

By a combination of existing databases, we predicted new HLA class I binding epitopes important for HIV immune responses and discuss mutations to preserve immunogenicity of the Nef protein, modified not to confer HLA or $CD4^+$ down-regulating activities. By Nef epitope-to-allele binding predictions, we identified previously not described epitopes for the common African HLA alleles HLA-A*02:01, A*30:01, A*30:02, B*58:01 and C*07:01 and compared them to already reported epitopes from the Los Alamos database. The smallNef gene/protein may contribute effectively to both stronger and broader cellular immunogenicity of an HIV-1 vaccine.

Biography

Athina Kilpelainen is a Master student at the Biomedicine programme at Karolinska Institute. She completed her Bachelor's degree in Biomedical Laboratory Science in 2012 at the age of 21, where she performed her thesis on gene immunogen optimizations of HIV-1 Reverse Transcriptase.

athina.kilpelainen@stud.ki.se