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## Role of APOBEC3B deletion and IL16 promoter polymorphism and its association with HIV susceptibility

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Human APOBEC3 (A3) cytidine deaminases constitute cellular intrinsic defense mechanism, inhibiting replication of retroviruses acting in both innate and adaptive pathways. A3B exhibit insertion/deletion (I/D) polymorphism providing immunity to retroviral infection. In humans, high-frequency distribution of 29.5 kb deletion occurs and A3B deletion genotype results in complete loss of A3B coding region. IL-16, a proinflammatory cytokine, activates T-cells by binding to CD4. Recently, SNP involving T/C substitution at position 295 has been described. This study investigated the effect of I/D and IL-16 (295 T/C) polymorphism on susceptibility to HIV among 84 HIV seronegative (HSN) and 26 HIV seropositive (HSP) individuals in North Indian population, which was assessed based on frequencies of genotypes: deletion-homozygous (D/D), hemizygous (D/I), no deletion (I/I) and IL 16 (295 T/C) between infected and uninfected cohorts. Genotypic Frequencies showed no significant difference between HSP and HSN of A3B (I/I 57.7%, I/D 30.8% and D/D 11.5%) (I/I 42.9%, I/D 30.9% and D/D 26.2%) and IL16 (295) (T/T 88.5%, T/C 7.7%, C/C 3.8%) (T/T 82%, T/C 9.5%, C/C 8.3%). Also no association of deletion allele was observed in HSN (I vs D: OR = 0.327, p = 0.093, 95% CI= 0.085-1.26 and I vs I/D: OR = 0.738, p = 0.550, 95% CI = 0.273-1.9) compared with HSP. Herein, preliminary analysis of our data shows no significant impact of A3B deletion and IL-16(T/C) polymorphism in the predisposition of HIV-1 susceptibility. Further validation on the role of A3B deletion and IL-16(T/C) polymorphism in susceptibility to HIV should be done in more samples.

## **Biography**

Kavita Kakkar hails from the sacred city of Allahabad and is a PhD scholar. She completed her BSc (Hons) from Allahabad Agricultural Institute Deemed University and MSc from Vellore Institute of Technology. Her keen and enthusiastic approach towards the field of Microbiology has motivated her to attend multiple academic programs, conferences like ASICON etc. and fetched her an award during BIOXPLORE'07. Her five year stint with Sanjay Gandhi Post Graduate institute of Medical Sciences, Lucknow where she currently is working as SRF on an ICMR project on HIV, has further sharpened her aptitude for research and thirst for knowledge. She is currently pursuing PhD on aspect of HIV pathogenesis, and has 2 publications and 6 nucleotide submissions. She strives to maintain a good learning curve throughout her career.

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