

Genes-4U

SDF-1 3' A (G801A)

(Stromal-derived Factor - 1)

Stromal-derived Factor 1 is the natural ligand of the CXCR4 chemokine receptor, which itself is a co-receptor for HIV. A genetic variant of SDF-1, **SDF1 A801** in the 3' UTR of the SDF-1 gene (abbreviated SDF1-3'A) with an allele frequency of about 20 %, **influences the progression rate of HIV infection** in that homozygote carriers (A/A) develop AIDS later than heterozygote (G/A) or wild type (G/G) carriers (1). SDF-1 is also involved in homing of haematopoietic progenitor cells (HPCs). In a recent study, the presence of the **SDF1-3'A allele** was the only factor **predictive of good CD34(+) cell mobilization** (P = 0.025), a procedure employed in autologous haematopoietic progenitor cell (HPC) transplantation (2).

References

(1) Winkler C. et al. Genetic restriction of AIDS pathogenesis by an SDF-1 chemokine gene variant. Science 1998 Jan 16;279(5349):389-93 (PMID: 9430590)

(2) Benboubker L. et al. Association between the SDF1-3'A allele and high levels of CD34(+) progenitor cells mobilized into peripheral blood in humans. Br J Haematol 2001; 113(1):247-50 (PMID: 11328308)