

Supplementary Table 1: Common genetic variants in pathways related to cytokine signaling and/or EBV control and the putative polymorphic effect on risk of AIDS-lymphoma.

Gene	Protein function related to AIDS-related NHL	dbSNP	SNP <sup>ref</sup> (alias)	Reported SNP allelic difference <sup>ref</sup>
<i>IL10</i>	<p>Immunomodulatory cytokine produced by, among others, B cells(1), with pleiotropic cellular actions including</p> <ul style="list-style-type: none"> <li>- enhancing B cell viability, particularly with IL4 co-stimulation(2) and lymphoma growth at the auto/para-crine level(3)</li> <li>- inducing differentiation of CD40-stimulated B cells(4) and apoptosis of <i>S. aureus</i>-activated B cells(5).</li> </ul>	<p>rs1800896 rs1800871 rs1800872</p>	<p>-1082A&gt;G(6) - 819C&gt;T(6) -592C&gt;A(6)</p> <p><u>Haplotypes</u> GCC;ACC;ATA</p>	<p><u>Genotypes</u> IL10 592 CC is associated with higher IL10 serum level in HIV-seropositive men and increased risk of AIDS-related NHL as compared to all other genotypes(7).</p> <p>IL -1082 GG is associated with higher plasma IL10 in healthy individuals as compared to all other genotypes(8).</p> <p><u>Haplotypes</u> <i>Cytokine transcription, production or blood levels by haplotypes (cell type or blood levels, stimulus or population):</i></p> <p>a) GCC haplotype &gt; ACC and ATA (PBMC, <i>E. coli</i> LPS) (6) (GCC&gt;ATA; U937 monocyte cell line, luciferase assay)(9) (GCC&gt;ATA; whole blood, <i>S. marcescens</i> LPS)(9) (plasma IL10, Sjorgen Syndrome, a B-cell hyperactivity syndrome)(10)</p> <p>b) ATA &gt; GCC and/or ACC : (plasma IL10, neonates)(11)</p>

				(IL10 mRNA in PBMCs, <i>S.pneumonia</i> )(12)
<i>IL10RA</i>	<ul style="list-style-type: none"> <li>- mediates the actions of IL10(13)</li> <li>- inhibits the synthesis of proinflammatory cytokines</li> </ul>	rs9610	A3524G	(Ala/Gln) in 3'UTR
<i>CXCL12</i>	<ul style="list-style-type: none"> <li>- regulate normal B-lymphocyte maturation and proliferation</li> <li>- expressed by malignant B cells derived from primary central nervous system lymphomas (CNS)(14).</li> </ul>	rs1801157	3'UTR-801G-A (SDF1-3'A)	<p>No detectable effect on mRNA transcript and protein(15)</p> <p>No allelic variation in gene expression in EBV-transformed lymphoblastoid cell lines(16)</p> <p><i>SDF1-3'A</i> is associated with AIDS-related NHL(17)</p>
<i>IL13</i>	<ul style="list-style-type: none"> <li>- induces immunoglobulin E (IgE), the stimulus for allergic symptoms, in B cells (18) possibly through its receptor, IL4 receptor-<math>\alpha</math> (IL4R).</li> <li>- influences growth of non-Hodgkin's B-lymphoma cells in vitro(19).</li> <li>- anti-inflammatory</li> <li>- suppresses IL1, IL6, and IL8 production</li> </ul>	rs1800925	-1055C>T(20, 21) (-1069) (-1112)	1055T: increased IL13 production & increased recruitment of binding protein to the genomic region and allergic asthma(20)

<i>IL4</i>	<ul style="list-style-type: none"> <li>- induce IgE, the stimulus for allergic symptoms, in B cells (18) possibly through its receptor, IL4R.</li> <li>- increases survival growth of non-Hodgkin's B-lymphoma cells in vitro(22).</li> <li>- regulates antibody production</li> <li>- attenuates inflammatory response</li> </ul>	rs2243250  rs2070874	<p>-584C&gt;T (23) (590 from ATG codon)(24) (-524 from exon1)(25)</p> <p>Ex1 C-168T (-33)(24)</p>	<p>Allele 584T: Higher <i>IL4</i> transcriptional activity(26)</p> <p>In complete LD with rs2243250</p>
<i>IL4R</i>	<ul style="list-style-type: none"> <li>- receptor for IL4 and IL13</li> <li>- regulates IgE production, chemokine and mucus production, allergic inflammation.</li> </ul>	rs1801275	(Q576R)(27) Q551R(28)	nonsynonymous (Gln/Arg) coding exon is associated with atopy and allergy(27) total IgE concentrations(29)
<i>CCL5</i>	<ul style="list-style-type: none"> <li>- upregulation relate to allergic inflammation and atopic diseases (30) and other cancers, i.e., breast and ovarian cancers(31).</li> <li>- cd4 Tcell depletion in HIV</li> </ul>	rs2280788  rs2107538	-28C>G(32)  -403G>A(32)	<p>Allele 28G: higher <i>CCL5</i> transcription(32)</p> <p>Allele 403A: higher <i>CCL5</i> transcription and associated with atopic dermatitis(33)</p>
<i>BCL6</i>	<ul style="list-style-type: none"> <li>- a proto-oncogene identified from chromosomal breakpoints in the diffuse</li> </ul>	rs1056932	N387N (Ex6-195C>T)(40)	As compared to the TT homozygotes, carriers of the CC genotype were associated with increased NHL risk(40).

	<p>large B-cell subtypes of NHL in immunocompetent persons(34-36) - frequently translocated in lymphomas, regulates germinal center B cell differentiation and inflammation including T-helper type 2 cytokines in mast cells(37). - BCL6 somatic mutations are associated with diffuse large-cell subtype of AIDS-NHL(38, 39).</p>	rs3774306	IVS7-643G>A	
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rs, reference SNP ID