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The infectious burden leading to immune activation can vary between different populations and lead to various immune dysfunctions. We compared the effect of immune activation on apoptosis and T cell function in HIV uninfected individuals from Nairobi, Kenya (n=34), and Winnipeg, Canada (n=10). Women from Nairobi had a significantly greater number of CD8⁺ T cells expressing the activation markers CD38 and HLA DR. Kenyan women also had significantly higher levels of CTLA-4⁺ CD4 and CD8⁺ T cells, and reduced levels of CD28⁺ CD8⁺ cells. Levels of CD95⁺ CD4⁺ T cells were higher in Kenyan women and, correspondingly, showed higher levels of spontaneous apoptosis. Kenyan women also demonstrated hyper-responsiveness to T cell activation as assessed by interferon gamma production. This study demonstrates that in a population of Kenyan women with high levels of T cell activation, there were also elevated levels of T cell apoptotic death and hyper-responsiveness. These differences may influence the efficacy of immune responses to pathogens and must be considered when testing candidate vaccines.