

## **Background information (FAQ)**

### **What are CD4 cells?**

- CD4 cells serve an important immune function and are released in response to foreign bodies ('antigens').
- CD4 cells attach themselves to these antigens thereby facilitating their destruction by CD8 (suppressor/cytotoxic) T-lymphocytes.
- CD4 cells are T-lymphocyte (helper/inducer) cells which have 'CD4' receptors.
- HIV adheres itself to CD4 cells, ultimately destroying the cell. This depletion in CD4 cells results in individuals being susceptible to infection.

### **What is a CD4 cell 'count'?**

- This is a measure of the number of CD4 cells in a specified volume of blood. CD4 cell counts are usually expressed in cells/mm<sup>3</sup>.
- Other immunological measures routinely used in HIV positive individuals include the total number of lymphocytes (used to calculate the percentage of all lymphocytes which express the CD4 receptor) and levels of CD8 cells.
- These procedures are performed by immunology or haematology laboratories.

### **Why are CD4 cell counts performed?**

- Enumeration of CD4 T-lymphocytes (CD4 cell 'counts') give a measure of the degree to which an individual's immune system is 'compromised'.
- This will identify periods in which an individual is vulnerable to opportunistic infections and consequently help inform decisions to initiate antiretroviral treatment and therapies to prevent opportunistic infection (prophylaxis).
- An example of how CD4 Surveillance data is used to monitor the level of immunosuppression in an HIV infected individual over time is shown below.