

## **TEST: HIV-1 VIRAL LOAD**

### **PRINCIPLE:**

HIV-1 Viral Load is a quantitative measurement of the HIV-1 virus. Viral Load is the equivalent to the number of HIV particles in the blood. The latest research indicates that Viral Load has a direct relationship with the progression of HIV disease. High levels of the virus (>100,000 RNA copies/ml) are associated with rapid progression of AIDS. Reducing the Viral Load has shown to reduce the rate of disease progression. Therefore doctors believe that keeping the Viral Load as low as possible for as long as possible is crucial to staying healthy and delaying the progression of the disease. New Viral Load measurements are compared to previous results and reductions in plasma virus levels are considered to be associated with decreased risk of clinical progression.

This test is an *in vitro* nucleic acid amplification test using Polymerase Chain Reaction (PCR) technology to achieve the quantitative detection of HIV-1 RNA in human plasma—one of the acceptable methods of determining viral load in peripheral blood. The AMPLICOR HIV-1 MONITOR Test is not intended for use as a screening test for HIV or as a diagnostic test to confirm the presence of HIV infection. The test is intended for use in conjunction with clinical presentation and other laboratory markers as an indicator of disease prognosis. The test has also been used as an aid in assessing viral response to antiretroviral treatment as measured by the changes in plasma HIV-1 RNA levels. The clinical significance of changes in HIV RNA measurements has not been fully established. However, several large studies are now in progress to more fully determine the role of comparative HIV RNA measurements in patient management.

### **SPECIMEN REQUIREMENTS:**

Collect plasma in tubes with EDTA as the anticoagulant. ACD as the anticoagulant may be used but the test results will be approximately 15% lower than the results from EDTA samples.

This is due to the dilution effect of the 1.5ml ACD anticoagulant present in the blood collection tube. **DO NOT COLLECT BLOOD IN TUBES WITH THE ANTICOAGULANT HEPARIN** as heparin inhibits PCR.

### **METHOD**

Polymerase Chain Reaction (PCR)

### **REFERENCES**

1. Gaines, H., von Sydrow, M.A., von Stedingk, L.V. 1990. *Immunological changes in primary HIV-1 infection*. AIDS. **4**:995-999.
2. Daar, E.S., Moudgil, T. Meyer, R.D., et al. 1991. *Transient high levels of viremia in patients with primary human immunodeficiency virus type 1 infection*. New England Journal of Medicine. **324**:961-964.
3. Piatak, N., Saag, M.S., Yang, L.C., et al. 1993. *High levels of HIV-1 in plasma during all stages of infection determined by competitive PCR*. Science. **259**: 1749-1754.

**Turnaround time:** Two Weeks