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**Biotin-labeled HIV-1 p24 Recombinant
VIRAL ANTIGEN**

Catalog Number: PRP-106
Quantity: 100 micrograms, 500 micrograms, 1 milligram
Format: 8M Urea, 20mM Tris-HCl pH 8.0, 10mM β -mercaptoethanol
Host: *E. coli*

Background:

Human immunodeficiency virus (HIV) is a retrovirus that can cause a condition in which the immune system begins to fail, leading to opportunistic infections. HIV primarily infects vital cells in the human immune system such as helper T cells (specifically CD4+ T cells), macrophages and dendritic cells. HIV infection leads to low levels of CD4+ T cells through three main mechanisms: firstly, direct viral killing of infected cells; secondly, increased rates of apoptosis in infected cells; and thirdly, killing of infected CD4+ T cells by CD8 cytotoxic lymphocytes that recognize infected cells. When CD4+ T cell numbers decline below a critical level, cell-mediated immunity is lost, and the body becomes progressively more susceptible to opportunistic infections. HIV is classified as a member of the genus *Lentivirus*, part of the family of Retroviridae. Lentiviruses have many common morphologies and biological properties. Many species are infected by lentiviruses, which are characteristically responsible for long-duration illnesses with a long incubation period. Lentiviruses are transmitted as single-stranded, positive-sense, enveloped RNA viruses. Upon entry of the target cell, the viral RNA genome is converted to double-stranded DNA by a virally-encoded reverse transcriptase that is present in the virus particle. This viral DNA is then integrated into the cellular DNA by a virally-encoded integrase so that the genome can be transcribed. Once the virus has infected the cell, two pathways are possible: either the virus becomes latent and the infected cell continues to function, or the virus becomes active and replicates, and a large number of virus particles are liberated that can then infect other cells.

Specificity and Preparation:

The *E. coli* derived 39 kDa biotin-labeled recombinant protein is a non-glycosylated polypeptide chain, containing the HIV-1 p24 immunodominant regions, amino acids 77-436. It is fused to beta-galactosidase (114 kDa) at the N-terminus. It is immunoreactive with all sera of HIV-1 infected individuals. Purity is greater than 95.0% as determined by HPLC analysis and SDS-PAGE.

Usage and Storage:

Reported to be effective for ELISA, immunoblotting, and as an excellent antigen for detection of HIV seroconvertors with minimal specificity problems. Protein may be shipped at ambient temperature. Upon arrival, store at -20°C. It is stable for up to five years frozen, one month in solution at room temperature. Gently spin down material before use; 5-10 seconds in a microfuge should be adequate.

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