



Product Data Sheet

□ Cat # RP-550 Recombinant HIV-1 gp41, Biotin Labeled

Size: □ 50 ug

Human immunodeficiency virus (HIV) is a retrovirus that can lead to 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 was 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.

Form and Storage:

gp41 Biotin labeled HIV-1 is 288-aa non-glycosylated polypeptide chain (466-753 aa, mol wt 32 kda), containing the full-length sequence of HIV-1 immunodominant regions gp41. It is fused to a 114Kda beta-galactosidase tag at the N-terminus with a mol wt of 146 Kda. It is expressed and purified (>95%) from *E. coli*. It is supplied in 20mM Tris pH-7.8, 20mM Tris, pH 8.0, 20 mM Beta-SH, and 8M urea (see lot sp. conc on the vial). It is shipped at ambient temperature. Upon arrival, Store at -20°C. Stable for Five years frozen. One month in solution at room temperature

Specificity:

Immunoreactive with all sera of HIV-1 infected individuals.

Suggested Applications:

Antigen in ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems.

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