

**HIV-1 p24 core**

Human Immunodeficiency Virus 1 Antigen
recombinant, *E. coli*

Cat. No.	Amount
PR-1231	100 µg

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Additional Storage Conditions: avoid freeze/thaw cycles

Shelf Life: 12 months

Molecular Weight: 24 kDa

Purity: > 95 % (SDS-PAGE, HPLC)

Form: liquid (Supplied in 50 mM Tris-HCl pH 8.5 and 8 M urea)

Applications:

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

Description:

HIV-1 p24 Core is a non-glycosylated polypeptide chain, containing the full length sequence of the HIV-1 p24. 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.

Specificity: Immunoreactive with all sera of HIV-1 infected individuals.

Selected References:

Barletta *et al.* (2004) Lowering the detection limits of HIV-1 viral load using real-time immuno-PCR for HIV-1 p24 antigen. *Am. J. Clin. Pathol.* **122**:20.

Barbouche *et al.* (1999) False-positive HIV-1 p24 antigenemia with unusual pattern of neutralization. *Arch. Inst. Pasteur. Tunis.* **76**:11.

Bonard *et al.* (2003) Field evaluation of an improved assay using a heat-dissociated p24 antigen for adults mainly infected with HIV-1 CRF02_AG strains in Cote d'Ivoire, West Africa. *J. Acquir. Immune. Defic. Syndr.* **34**:267.

Eyson *et al.* (2003) Evidence for Gag p24-specific CD4 T cells with reduced susceptibility to R5 HIV-1 infection in a UK cohort of HIV exposed-seronegative subjects. *AIDS.* **17**:2299.

Ribas *et al.* (2003) Performance of a quantitative human immunodeficiency virus type 1 p24 antigen assay on various HIV-1 subtypes for the follow-up of



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human immunodeficiency type 1 seropositive individuals. *J. Virol. Methods.* **113**:29.

Schupbach *et al.* (2003) HIV-1 p24 antigen is a significant inverse correlate of CD4 T-cell change in patients with suppressed viremia under long-term antiretroviral therapy. *J. Acquir. Immune. Defic. Syndr.* **33**:292.