

HIV-1 p55 gag

Description: HIV-1 p55 Recombinant- is a 55kDa protein derived from gag gene of an HTLV-3/LAV isolate of HIV-1. The HIV-1 p55 is glycosylated with N-linked sugars and produced using baculovirus vectors in insect cells. The full length authentic p55 gag protein forms particles within itself of approximately 23nm in size (as determined by electron particles).

Source: Baculovirus Insect Cells.

Physical Appearance: Sterile filtered colorless clear solution.

Purity: Greater than 90.0% as determined by HPLC analysis & SDS-PAGE.

Specificity:

Immunoreactive with sera from HIV infected individuals.

Formulation:

The HIV-1 p55 gag protein solution contains 10mM Tris pH 8, 140mM NaCl and 400mM L-Arginine.

Stability:

Recombinant HIV -1 p55 although stable at 4°C for 3 weeks, should be stored desiccated below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please avoid freeze-thaw cycles.

Usage:

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Applications:

HIV-1 p55 gag antigen is suitable for ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems.

Introduction:

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

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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.



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