

HIV-1 gp120 LAV

Description: HIV-1 gp120 LAV isolate Recombinant- is the external envelope protein, full-length 100-120 kDa, derived from the env. gene of HIV-1 and glycosylated with N-linked sugars and produced using baculovirus vectors in insect cells. Purified under conditions that maintain the tertiary structure of the biologically active molecule. HIV-1 gp120 LAV sequence is identical to the predicted amino acid sequence of gp120 from pNL4-3 (Adachi et al. [1986], J. Virol. 59, 284-291; GenBank accession number M19921).

Source: Baculovirus Insect Cells.

Physical Appearance: Sterile filtered colorless clear solution.

Amino Acid Sequence: IPGEKLWVTV YYGVPVWKEA TTTLFCASDA KAYDTEVHNV
ATHACVPTDP NPQEVVLNVN TENFNMWKND MVEQMHEDII SLWDQSLKPC VKLTPLCVSL
KCTDLKNDTN TNSSSGRMIM EKGEIKNCSF NISTSIRDKV QKEYAFFYKL DIVPIDNTSY
RLISCNTSVI TQACPKVSFE PIPHYCAPA GFAILKCNK TFNGTGPCTN VSTVQCTHGI
RPVVSTQLLL NG

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

Specificity:

Immunoreactive with sera from HIV infected individuals. Western blots: 0.1-1.0

Formulation:

The protein solution contains 10mM Tris-Cl pH-7.6, 150mM NaCl and 0.01% Triton N-101.

Stability:

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. They may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

Applications:

HIV-1 gp120 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 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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