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## Product Data Sheet

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Product Name: HIV-1 gp120 LAV  
 Cat. No.: GP25404  
 Batch No.: 1

### Product Data

Purity	>98%	Source	Baculovirus Insect Cells.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.

Amino Acid Sequence  
 IPGEKLWVTV YYGVPVWKEA TTTLFCASDA KAYDTEVHNV ATHACVPTDP  
 NPQEVVLVNV TENFNMWKND MVEQMHEDII SLWDQSLKPC VKLTPLCVSL  
 KCTDLKNDTN TNSSSGRMIM EKGEIKNCSF NISTSIRDKV QKEYAFFYKL  
 DIVPIDNTSY RLISCNTSVI TQACPKVSFE PIPIHYCAPA GFAILKCNNK  
 TFNGTGPCTN VSTVQCTHGI RPVVSTQLLL NGLAEEDVV IRSANFTDNA  
 KTIIVQLNTS VEINCTRPNN NTRKSIRIQR GPGRAFVTIG KIGNMRQAHC  
 NISRAKWNAT LKQIASKLRE QFGNNKTIIF KQSSGGDPEI VTHSFNCGGE  
 FFYCNSTQLF NSTWFNSTWS TEGSNNTEGS DTITLPCRIK QFINMWQEVG  
 KAMYAPPISG QIRCSSNITG LLLTRDGGNN NNGSEIFRPG GGDMRDNWRS  
 ELYKYKVVKI EPLGVAPTKA KRRVVQREKR.

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

### 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

**Caution: Product has not been fully validated for medical applications. For research use only.**

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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.

### 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.

### Background

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).

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