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# Certificate of Analysis and Data Sheet

## Recombinant Human Immunodeficiency Virus 1 (HIV-1) p66 pol

**Catalog No.**

228-10746

**Source**

Baculovirus Insect Cells

### *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.

### *Description*

HIV-1 p66 Recombinant- is a 66 kDa protein derived from pol gene. The HIV-1 p66 is glycosylated with N-linked sugars and produced using baculovirus vectors in insect cells.

### *Physical Appearance*

Sterile filtered colorless clear solution.

### *Formulation*

The HIV-1 p66 pol protein solution contains 30mM Tris pH-7, 0.15M NaCl, 0.2mM EDTA & 2mM β-ME.

### *Purity*

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

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
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### *Stability*

Recombinant HIV-1 p66 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.

### *Specificity*

Immunoreactive with sera from HIV infected individuals.

**Western blots:** 0.1-1.0 µg/strip.

**ELISA:** 0.05 - 0.25 µg/well.

### *Applications*

HIV-1 p66 pol antigen is suitable for ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems.

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