



# Recombinant HIV type 1 P17, P24, Glycoprotein 41, Glycoprotein 120 Protein (DAG1542)

This product is for research use only and is not intended for diagnostic use.

## PRODUCT INFORMATION

<b>Product Overview</b>	HIV-1 gag, p17-p24, gp41-gp120 is a non-glycosylated polypeptide chain, containing sequence of HIV-1 immunodominant regions p17-p24, gp41-gp120.
<b>Antigen Description</b>	HIV1 p17 is the matrix protein of the Gag polyprotein which performs highly complex orchestrated tasks during the assembly, budding, maturation, and infection stages of the viral replication cycle. During viral assembly, the proteins form membrane associations and self-associations that ultimately result in budding of an immature virion from the infected cell. Gag precursors also function during viral assembly to selectively bind and package two plus strands of genomic RNA.
<b>Species</b>	HIV
<b>Purity</b>	Greater than 95.0% as determined by HPLC analysis and SDS-PAGE.
<b>Conjugate</b>	Unconjugated
<b>Applications</b>	HIV-1 gag p17-p24, gp41-gp120 antigen is suitable for ELISA and Western blots, excellent antigen for early detection of HIV seroconvertors with minimal specificity problems.
<b>Format</b>	Sterile filtered colorless clear solution.
<b>Buffer</b>	20mM PBS pH7.8, 20mM NaCl 0.5M, 1mM DTT, 8M urea.
<b>Preservative</b>	None
<b>Storage</b>	2-8°C short term, -20°C long term

## BACKGROUND

## 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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