

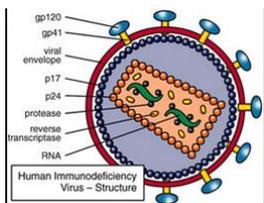
□ Cat # AB-16150

Goat anti-HIV gp120 IgG (poly) IgG

Size: □ 100 ul

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.

Viral structural protein



gag (group-specific antigen) codes for the precursor gag polyprotein which is processed by viral protease during maturation to MA (matrix protein, p17); CA (capsid protein, p24); SP1 (spacer peptide 1, p2); NC (nucleocapsid protein, p7); SP2 (spacer peptide 2, p1) and P6 protein.

pol codes for viral enzymes reverse transcriptase (RT) and RNase H, integrase (IN), and HIV protease (PR). HIV protease is required to cleave the precursor Gag polyprotein to produce structural proteins, RT is required to transcribe DNA from RNA template, and IN is necessary to integrate the double-stranded viral DNA into the host genome.

env (for "envelope") codes for gp160, which is cleaved by a protease, furin, within the endoplasmic reticulum of the host cell. The post-translational processing produces a surface lipoprotein, gp120 or SU, which attaches to the CD4 receptors present on lymphocytes, and gp41 or TM, which embeds in the viral envelope to enable the virus to attach to and fuse with target cells.

tat (HIV trans-activator) plays an important role in regulating the reverse transcription of viral genome RNA ensuring efficient synthesis of viral mRNAs as well as regulating the release of the virions from the infected cells. Tat is expressed as 72-amino acid one-exon Tat as well as the 86-101 amino-acid two-exon Tat playing an important role early in HIV infection. Tat(14-15kDa) binds to the bulged genomic RNA stem-loop secondary structure near the 5' LTR region forming the Tat Responsive element (TAR).

Source of Antigen and Antibodies

Antigen	purified native gp120 from strain IIIB
Ab Host/type	Goat IgG, Aff pure IgG (cat # AB-16150) in PBS, pH 7.5, 0.05% azide
2-ab	Rabbit anti-Goat IgG-HRP conjugate Cat # 30220-200 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20011-1, Goat (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Specificity: gp120 (predominate gp120 band in WB).

Titer: > 1:1,000 by western blot immunoassay.

Cross reactivity: Antiserum does not cross-react with human T or B cells.

Uninfected cell reactivity: Antiserum is not reactive with human or bovine sera.

Stability: Short term storage less than 6 months at 2-8°C and long term storage at -20°C.

Suggested Use

By direct ELISA (against recombinant gp120), 1:5000-10,000 dilution will yield 0.4 O. D using alkaline phosphatase conjugated rabbit anti-mouse Ig.

Usage:

This item is for LABORATORY RESEARCH USE ONLY.

AB-16150-Anti-HIV-gp120-IgG

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