

## 32-13606: HIV-1 gp41 16kDa

### Alternative Name :

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

Source: *Escherichia Coli*.

Sterile Filtered White lyophilized (freeze-dried) powder.

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. Recombinant HIV-1 gp41 Subtype B produced in *E.coli* is a non-glycosylated polypeptide chain having a molecular mass of 16kDa and fused to a His tag at N-terminus.

### Product Info

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| <b>Amount :</b>            | 100 µg / 0.5 mg  |
| <b>Purification :</b>      | Greater than 95.0% as determined by SDS-PAGE.<br>Lyophilized from 1mg/ml in 20mM Na-carbonate, pH 9.6.   |
| <b>Content :</b>           | It is recommended to reconstitute the lyophilized HIV-1 gp41 in sterile 18M-cmH <sub>2</sub> O not less than 100µg/ml, which can then be further diluted to other aqueous solutions. |
| <b>Storage condition :</b> | HIV-1 gp41 although stable at room temperature for 4 weeks, should be stored below -18°C. Please prevent freeze thaw cycles.   |