

HIV-1 gp160 Protein (gp120 subunit) (group N, strain 06CM-U14296) (His Tag)

Catalog Number: 40255-V08H



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

gp120

Protein Construction:

A DNA sequence encoding the HIV-1 Envelope glycoprotein gp160 protein (Trp32-Arg504) was expressed with a polyhistidine tag at the C-terminus.

Source: HIV

Expression Host: HEK293 Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE.

Endotoxin:

< 1.0 EU per µg protein as determined by the LAL method.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Trp 32

Molecular Mass:

The recombinant HIV-1 Envelope glycoprotein gp160 protein consists 484 amino acids and predicts a molecular mass of 54.4 kDa.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

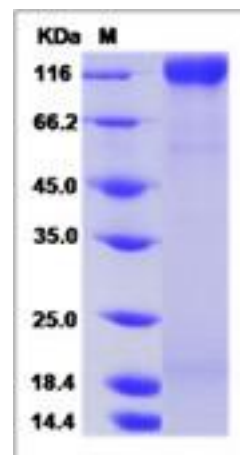
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

The HIV-1 gp120 envelope protein, a glycoprotein that is part of the outer layer of the virus, which is an essential component in the multi-tiered viral entry process. It presents itself as viral membrane spikes consisting of 3 molecules of gp120 linked together and anchored to the membrane by gp41 protein. Gp120 is essential for viral infection as it facilitates HIV entry into the host cell and this is its best-known and most researched role in HIV infection. However, it is becoming increasingly evident that gp120 might also be facilitating viral persistence and continuing HIV infection by influencing the T cell immune response to the virus. The surface protein gp120 attaches the virus to the host lymphoid cell by binding to the primary receptor CD4. Gp120 binding to its receptor CD4 and co-receptor, CXCR4 or CCR5 is required for fusion of viral and cellular membranes. Several mechanisms might be involved in this process of which gp120 binding to the CD4 receptor of T cells is the best known and most important interaction as it facilitates viral entry into the CD4+ cells and their depletion, a hallmark of the HIV infection. Gp120 is shed from the viral membrane and accumulates in lymphoid tissues in significant amounts. Despite the overall genetic heterogeneity of the gp120 glycoprotein, the conserved CD4 binding site provides an attractive antiviral target. Interaction between gp120 and ITGA4/ITGB7 would allow the virus to enter GALT early in the infection, infecting and killing most of GALT's resting CD4+ T-cells. This T-cell depletion is believed to be the major insult to the host immune system leading to AIDS.

References

- 1.Kadow J, *et al.* (2006) Small-molecule HIV-1 gp120 inhibitors to prevent HIV-1 entry: an emerging opportunity for drug development. *Curr Opin Investig Drugs.* 7(8): 721-6.
- 2.Stevceva L, *et al.* (2007) Immune responses to HIV Gp120 that facilitate viral escape. *Curr HIV Res.* 5(1): 47-54.
- 3.Yoon V, *et al.* (2010) The GP120 molecule of HIV-1 and its interaction with T cells. *Curr Med Chem.* 17(8): 741-9.

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