HIV-1 [HIV-1/Clade B/C (CN54)] GP120 Protein, His Tag (MALS verified)

Catalog # GP4-V15227

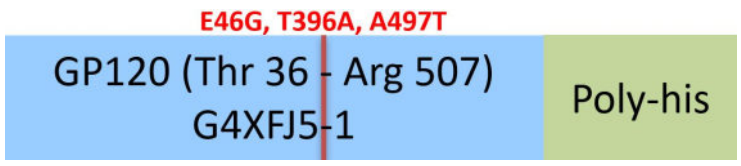
Synonym

GP120,GP120-CN54

Source

HIV-1 [HIV-1/Clade B/C (CN54)] GP120, His Tag derived from the env. gene of HIV-1 strain CN54 gp160 (Accession # G4XFJ5-1 (E46G, T396A, A497T), Thr 36 - Arg 507) and glycosylated with N-linked sugars and expressed in HEK293 cells at ACROBiosystems.
Predicted N-terminus: Thr 36

Molecular Characterization



This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 53.8 kDa. The protein migrates as 80-110 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

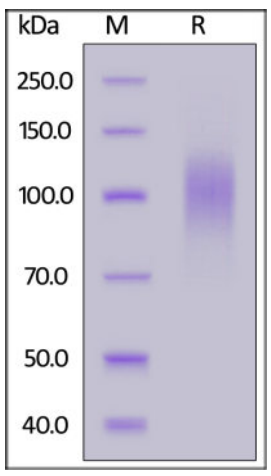
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

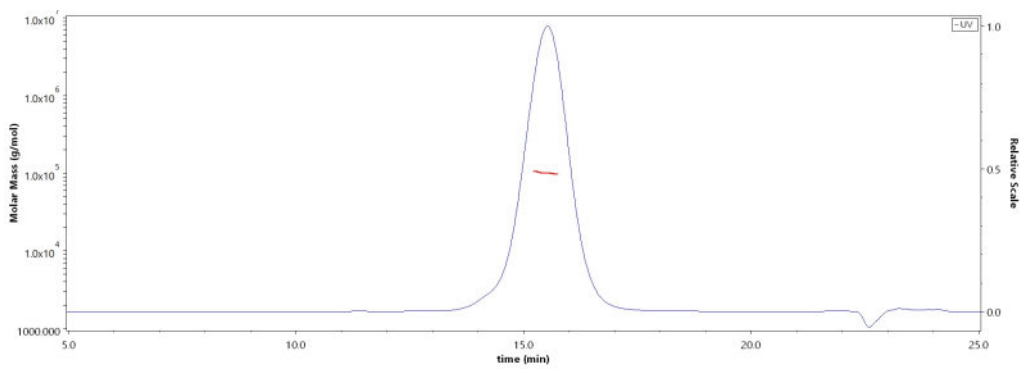
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



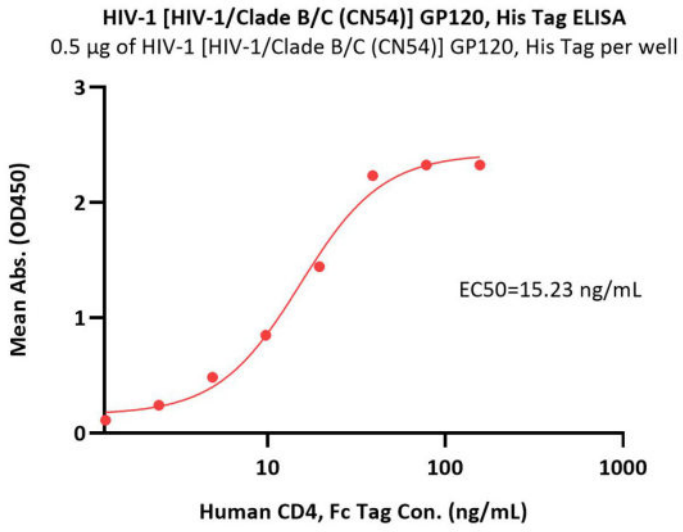
HIV-1 [HIV-1/Clade B/C (CN54)] GP120, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS



The purity of HIV-1 [HIV-1/Clade B/C (CN54)] GP120, His Tag (Cat. No. GP4-V15227) is more than 90% and the molecular weight of this protein is around 90-120 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA



Immobilized HIV-1 [HIV-1/Clade B/C (CN54)] GP120, His Tag (Cat. No. GP4-V15227) at 5 μg/mL (100 μL/well) can bind Human CD4, Fc Tag (Cat. No. CD4-H5259) with a linear range of 1-39 ng/mL (QC tested).

Background

Human Immunodeficiency Virus (HIV) can be divided into two major types, HIV type 1 (HIV-1) and HIV type 2 (HIV-2). HIV-1 is related to viruses found in chimpanzees and gorillas living in western Africa. HIV-2 is related to viruses found in sooty mangabeys. HIV-1 viruses may be further divided into groups. The HIV-1 group M viruses predominate and are responsible for the AIDS pandemic. Some of the HIV-1 group M subtypes are known to be more virulent or are resistant to different medications. HIV-2 viruses are thought to be less virulent and transmissible than HIV-1 M group viruses.
Envelope glycoprotein GP120 (or gp120) is the name of the glycoprotein which forms the spikes sticking out of a HIV virus particle. gp120 is essential for virus entry into cells as it plays a vital role in seeking out specific cell surface receptors for entry. Three gp120s, bound as heterodimers to a transmembrane glycoprotein, gp41, are thought to combine in a trimer to form the envelope spike, which is involved in virus-cell attachment. One half of the molecular weight of gp120 is due to the carbohydrate side chains (the "glyco-" in "glycoprotein"). These are sugar residues which form something almost like a sugar "dome" over the gp120 spikes. This dome prevents gp120 from being recognised by the human immune response. As the HIV virus and the human CD4 cell come together, the gp120 binding site "snaps open" at the last minute.The glycoprotein gp120 is anchored to the viral membrane, or envelope, via non-covalent bonds with the transmembrane glycoprotein, gp41. It is involved in entry into cells by binding to CD4 receptors, particularly helper T-cells. Binding to CD4 is mainly electrostatic although there are van der Waals interactions and hydrogen bonds.

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.