

# Recombinant HIV Virus GP120, His-tagged, Biotinylated

**Cat. No.** GP120-268H    **Lot. No.** (See product label)

## SPECIFICATION

**Product Overview**      HIV-1 GP120 Protein(HIV-1/Clade B/C(CN54)), Biotinylated (Biotinylated GP120) Thr 27 - Arg 498 (HIV-1 strain CN54 gp160), was labeled with biotin based on Recombinant HIV-1 GP120 (CN54) Protein, which was produced in human 293 cells (HEK293).

**Species**                      HIV

**Source**                        HEK293

**ProteinLength**              27-498 a.a.

**Description**                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

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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.

**Form**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally Trehalose are added as protectants before lyophilization.

**Molecular Mass**

Biotinylated GP120, fused with 6xHis tag at the C-terminus, has a calculated MW of 53.8 kDa. The predicted N-terminus is Thr 27. DTT-reduced Protein migrates as 80-110 kDa due to glycosylation.

**Endotoxin**

Less than 1.0 EU per µg of the Biotinylated GP120 by the LAL method.

**Purity**

>95% as determined by reduced SDS-PAGE.

**Storage**

Avoid repeated freeze-thaw cycles. No activity loss was observed after storage at: In lyophilized state for 1 year (4°C); After reconstitution under sterile conditions for 3 months (-70°C).

**Conjugation**

Biotin

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