Recombinant HIV-1 gp120, His-tagged

Cat. No. gp120-23H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant HIV-1 GP120 Protein (HIV-1 /Clade B/C (CN54)) (rCN54 /GP120) derived from the env. gene of HIV-1 strain CN54 gp160 (Thr27-Arg498) and glycosylated with N-linked sugars and expressed in HEK293 cells.
Species	HIV
Source	HEK293
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 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

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	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.
Source	HEK293 cells
Species	HIV-1
Tag	His
Form	Lyophilized from 0.22 μm filtered solution in PBS, pH 7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization
Molecular Mass	rCN54/GP120, a 478 amino acids protein with polyhistidine tag at C-terminus, and has a calculated MW of 53.8 kDa. The predicted N-terminus is Thr27. DTT-reduced protein migrates as 80-110 kDa protein due to glycosylation.
AA Sequence	TVYYGVPVWKGATTTLFCASDAKAYDTEVHNVWATHACVPADPNPQEMVLENVTE NFNMWKNEMVNQMQEDVISLWDQSLKPCVKLTPLCVTLECRNVSSNSNDTYHETY HESMKEMKNCSFNATTVVRDRKQTVYALFYRLDIVPLTKKNYSENSSEYYRLINCNT SAITQACPKVTFDPIPIHYCTPAGYAILKCNDKIFNGTGPCHNVSTVQCTHGIKPVVST QLLLNGSLAEGEIIIRSENLTNNVKTIIVHLNQSVEIVCTRPGNNTRKSIRIGPGQTFYA TGDIIGDIRQAHCNISEDKWNETLQRVSKKLAEHFQNKTIKFASSSGGDLEVTTHSFN CRGEFFYCNTSGLFNGAYTPNGTKSNSSSIITIPCRIKQIINMWQEVGRAMYAPPIKG NITCKSNITGLLLVRDGGTEPNDTETFRPGGGDMRNNWRSELYKYK VVEIKPLGVA PTTTKRRVVEREKRHHHHHH

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Endotoxin	Less than 1.0 EU per μg of the or rCN54 /GP120 by the LAL method.
Purity	>97% purity as determined by SDS-PAGE of reduced rCN54 /GP120.
Storage	Avoid repeated freeze-thaw cycles.No activity loss was observed after storage at: In lyophilized state for 1 year (4oC-8oC); After reconstitution under sterile conditions for 1 month (4oC-8oC) or 3 months (-20oC to -70oC).

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