Recombinant HIV-1 [Clade E (CM244)] GP120 protein, His-tagged

Cat. No. GP120-341H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant HIV-1 [Clade E (CM244)] GP120 protein (Thr36-Lys511), fused to His tag at C-terminus, was expressed in human 293 cells (HEK293).
Species	HIV
Source	HEK293
ProteinLength	476
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

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	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 um filtered solution in PBS, pH7.4, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 54.1 kDa. The protein migrates as 65-110 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.
Endotoxin	Less than 1.0 EU per ug by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. This product is stable after storage at: -20 centigrade to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4℃ before opening to recover the entire contents.

GENE INFORMATION

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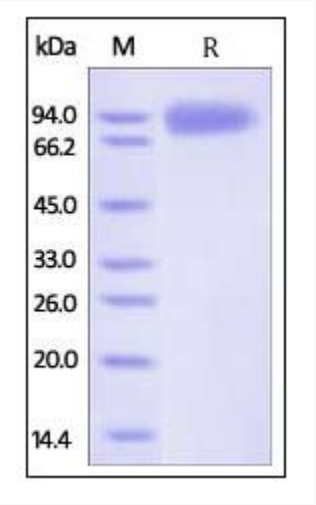
Gene Name	env
Official Symbol	env
Synonyms	HIV1gp8
Gene ID	155971
Protein Refseq	NP_057856.1
UniProt ID	Q4QX31
SDS-PAGE of GP120-341H	 HIV-1 [HIV-1/Clade E (CM244)] GP120, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 95%.

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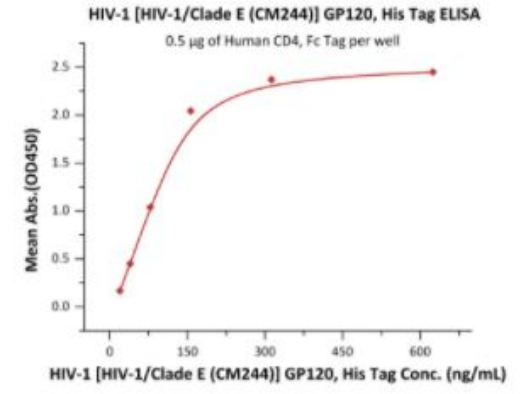
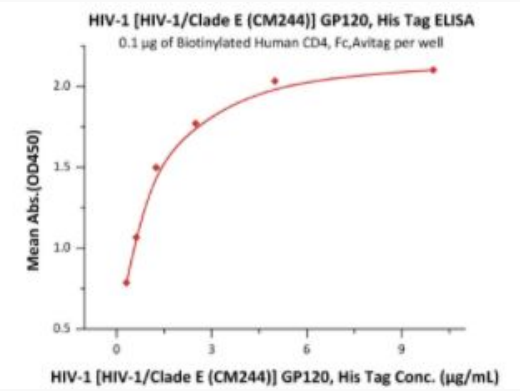
Bioactivity-ELISA of GP120-341H	 Immobilized Human CD4, Fc Tag at 5 μg/mL (100 μL/well) can bind HIV-1 [HIV-1/Clade E (CM244)] GP120, His Tag with a linear range of 20-156 ng/mL (QC tested).
Bioactivity-ELISA of GP120-341H	 Immobilized Biotinylated Human CD4, Fc Tag at 1 μg/mL (100 μL/well) can bind HIV-1 [HIV-1/Clade E (CM244)] GP120, His Tag with a linear range of 0.156-0.313 μg/mL (Routinely tested).

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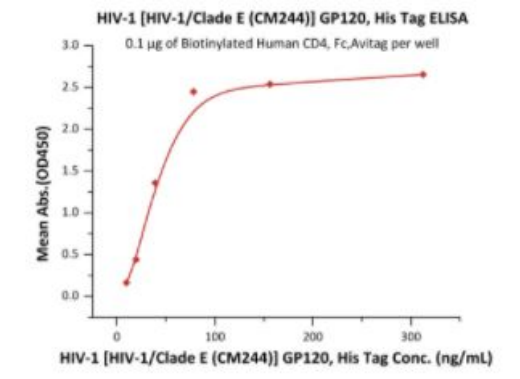
Bioactivity-ELISA of GP120-341H



Immobilized Biotinylated Human CD4, Fc Tag at 1 μg/mL (100 μL/well) on streptavidin precoated (0.2ug/well) plate, can bind HIV-1 [HIV-1/Clade E (CM244)] GP120, His Tag with a linear range of 10-78 ng/mL (Routinely tested).

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