# Envelope glycoprotein gp120 Protein, HIV (Q9DKG6, HEK293, His)

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| **Cat. No.:** | HY-P70907 |
| **Synonyms:** | Envelope glycoprotein gp120; Glycoprotein 120; Surface protein gp120 |
| **Species:** | Virus |
| **Source:** | HEK293 |
| **Accession:** | Q9DKG6 (M1-E498) |
| **Gene ID:** | / |
| **Molecular Weight:** | 105-130 kDa |

## PROPERTIES

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| **AA Sequence** | M R V K E T Q M N W P N L W K W G T L I L G L V I I C S A S D N L W V T V Y Y G<br>V P V W R D A D T T L F C A S D A K A H E T E V H N V W A T H A C V P T D P N P<br>Q E I H L E N V T E N F N M W R N N M V E Q M Q E D V I S L W D Q S L K P C V K<br>L T P L C V T L N C T N A N W T N S N N T T N G P N K I G N I T D E V K N C T F<br>N M T T E L K D K K Q K V H A L F Y K L D I V Q I N S S E Y R L I N C N T S V I<br>K Q A C P K I S F D P I P I H Y C T P A G Y A I L K C N D K N F N G T G P C K N<br>V S S V Q C T H G I K P V V S T Q L L L N G S L A E E E I I I R S E N L T N N A<br>K T I I V H L N K S V E I N C T R P S N N T R T S I T M G P G Q V F Y R T G D I<br>I G D I R K A Y C E I N G I K W N E V L V Q V T G K L K E H F N K T I I F Q P P<br>S G G D L E I I T H H F S C R G E F F Y C N T T K L F N N T C I G N T S M E G C<br>N N T I I L P C K I K Q I I N M W Q G V G Q A M Y A P P I S G R I N C V S N I T<br>G I L L T R D G G A D N N T T N E T F R P G G G N I K D N W R S E L Y K Y K V V<br>E I E P L G I A P T R A K R R V V E |
| **Biological Activity** | Measured in a cell proliferation assay using U87 human glioma cell. The $ED_{50}$ this effect is 82.60 ng/mL, corresponding to a specific activity is $1.211\times10^4$ units/mg. |
| **Appearance** | Lyophilized powder. |
| **Formulation** | Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4 or 20 mM PB, 150 mM NaCl, pH 7.4. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | It is not recommended to reconstitute to a concentration less than 100 μg/mL in $ddH_2O$. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose). |
| **Storage & Stability** | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| **Shipping** | Room temperature in continental US; may vary elsewhere. |

## DESCRIPTION

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| **Background** | Envelope glycoprotein gp160 undergoes oligomerization predominantly into trimers in the host endoplasmic reticulum, followed by transit to the host Golgi for glycosylation completion. Subsequently, gp160 is proteolytically cleaved in the trans-Golgi by cellular furin or furin-like proteases, resulting in the activation and generation of gp120 and gp41. Surface protein gp120 serves as a critical mediator in the viral life cycle, initially attaching the virus to host lymphoid cells through binding to the primary receptor CD4. This interaction induces a structural rearrangement, creating a high-affinity binding site for chemokine coreceptors such as CXCR4 and/or CCR5. Additionally, gp120 acts as a ligand for CD209/DC-SIGN on dendritic cells (DCs) and CLEC4M/DC-SIGNR on endothelial cells, facilitating viral capture at mucosal surfaces and subsequent transmission to permissive cells. This interaction with DCs allows HIV to exploit the migration properties of dendritic cells, gaining access to CD4+ T-cells in lymph nodes. Virus transmission to T-cells can occur in trans (viral capture and transmission) or in cis (following productive DCs infection), contributing to a robust infection. In trans infection, virions bound to DCs remain infectious over days, possibly protected in non-lysosomal acidic organelles within DCs, enhancing viral infectious potential during migration from the periphery to lymphoid tissues. Upon arrival at lymphoid tissues, intact virions recycle back to the DCs' cell surface, facilitating virus transmission to CD4+ T-cells. |



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