3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

HIV-1 gp120 protein
recombinant, expressed in HEK 293 cells

Product Number **SAE0071**
Storage Temperature –20 °C

Synonyms: Glycoprotein 120 (gp120), Surface protein gp120

Product Description

HIV-1 gp120 protein is a glycoprotein exposed on the surface of the HIV envelope. The protein's name is derived from its apparent molecular mass of 120 kDa.[1] The gp120 protein is essential for virus entry into cells, as it plays a vital role in attachment to specific cell surface receptors. These receptors are DC-SIGN,[2] Heparan Sulfate Proteoglycan,[3] and the CD4 receptor.[4] The presence of gp120 is associated with higher levels of plasma IL-6, IL-10, and TNF-α, which may contribute to immune dysfunction during early HIV infection.[5]

This recombinant, human glycoprotein 120 (gp120) is expressed in human HEK 293 cells as a C-terminal histidine-tagged glycoprotein, with a calculated molecular mass of 55 kDa (amino acids Lys^{33}-Arg^{511}, with a C-terminal 8-histidine tag). The DTT-reduced protein migrates as a 100–130 kDa polypeptide on SDS-PAGE because of glycosylation. This protein is manufactured in human cells, with no serum.

Each vial contains 100 μg of gp120, aseptically filled and lyophilized from a solution of phosphate buffered saline. Vial content was determined by the Bradford method, using BSA as a calibrator.

Purity: ≥95% (SDS-PAGE)

UniProt: P04578

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile ultrapure water to a final concentration of 100 μg/mL.

This solution can be stored at 2–8 °C for up to 1 week. For extended storage, it is recommended to store reconstituted solutions in working aliquots at –20 °C.

Storage/Stability

Store the lyophilized product at –20 °C. The product is stable for at least 2 years as supplied.

References

1. Chou, M.J. *et al*., Antibody responses in early human immunodeficiency virus type 1 infection in hemophiliacs. *J. Infect. Dis.*, **157(4)**, 805-811 (1988).
2. Curtis, B.M. *et al*., Sequence and expression of a membrane-associated C-type lectin that exhibits CD4-independent binding of human immunodeficiency virus envelope glycoprotein gp120. *Proc. Natl. Acad. Sci. USA,* **89(17)**, 8356-8360 (1992).
3. de Witte, L. *et al.*, Syndecan-3 is a dendritic cell-specific attachment receptor for HIV-1. *Proc. Natl. Acad. Sci. USA*. **104(49)**, 19464-19469 (2007).
4. Raja, A. *et al.*, CD4 binding site antibodies inhibit human immunodeficiency virus gp120 envelope glycoprotein interaction with CCR5. *J. Virol.*, **77(1)**, 713-718 (2003).
5. Rychert, J. *et al.*, Detection of HIV gp120 in plasma during early HIV infection is associated with increased proinflammatory and immunoregulatory cytokines. *AIDS Res. Hum. Retroviruses*, **26(10)**, 1139-1145 (2010).

NA,GCY,MAM 10/17-1