



# HIV-1 gp120 (1994): sc-58147

## BACKGROUND

The attachment of enveloped viruses to cells and the fusion of viral and cellular membranes are critical early events in the HIV viral infection. This process is mediated by envelope glycoproteins (gp) on the surface of the virus. The human immunodeficiency virus type 1 (HIV-1) envelope glycoprotein, gp160, is proteolytically cleaved into gp120 and gp41, which remain noncovalently associated with one another. gp120 is one of the proteins that forms the envelope of HIV. gp120 projects from the surface of HIV and binds to the CD4 molecule on helper T cells. gp120 has been a logical experimental HIV vaccine because the outer envelope is the first part of the virus that encounters antibody. gp41 is embedded in the outer envelope of HIV that anchors gp120. gp41 also plays a key role in HIV's infection of CD4+ T cells by facilitating the fusion of the viral and cell membranes. The nomenclature of the gp proteins describes their respective molecular masses (e.g., gp160, gp120, gp41).

## REFERENCES

1. McKeating, J.A. and Balfe, P. 1999. The role of the viral glycoprotein in HIV-1 persistence. *Immunol. Lett.* 65: 63-70.
2. Ugolini, S., Mondor, I. and Sattentau, Q.J. 1999. HIV-1 attachment: another look. *Trends Microbiol.* 7: 144-149.
3. Moulard, M. and Decroly, E. 2000. Maturation of HIV envelope glycoprotein precursors by cellular endoproteases. *Biochim. Biophys. Acta* 1469: 121-132.
4. Liu, J., Shu, W., Fagan, M.B., Nunberg, J.H. and Lu, M. 2001. Structural and functional analysis of the HIV gp41 core containing an Ile573 to Thr substitution: implications for membrane fusion. *Biochemistry* 40: 2797-2807.
5. Maerz, A.L., Drummer, H.E., Wilson, K.A. and Pombourios, P. 2001. Functional analysis of the disulfide-bonded loop/chain reversal region of human immunodeficiency virus type 1 gp41 reveals a critical role in gp120-gp41 association. *J. Virol.* 75: 6635-6644.

## CHROMOSOMAL LOCATION

Genetic locus: ENV (human); Env (mouse) mapping to 8 E2.

## SOURCE

HIV-1 GP120 (1994) is a mouse monoclonal antibody raised against Human Immunodeficiency Virus1.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

HIV-1 gp120 (1994) is recommended for detection of gp120 envelope glycoprotein of HIV-1 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of HIV-1 gp120: 120 kDa.

## SELECT PRODUCT CITATIONS

1. Villa-Abrille, M.C., et al. 2011. Silencing of cardiac mitochondrial NHE1 prevents mitochondrial permeability transition pore opening. *Am. J. Physiol. Heart Circ. Physiol.* 300: H1237-H1251.

## PROTOCOLS

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