SANTA CRUZ BIOTECHNOLOGY, INC.

HIV-1 gp120 (vT-21): sc-17459



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 non-covalently 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

- McKeating, J.A. and Balfe, P. 1999. The role of the viral glycoprotein in HIV-1 persistence. Immunol. Lett. 65: 63-70.
- Ugolini, S., Mondor, I. and Sattentau, O.J. 1999. HIV-1 attachment: another look. Trends Microbiol. 7: 144-149.
- Moulard, M. and Decroly, E. 2000. Maturation of HIV envelope glycoprotein precursors by cellular endoproteases. Biochim. Biophys. Acta 1469: 121-132.
- Maerz, A.L., Drummer, H.E., Wilson, K.A. and Poumbourios, 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.
- Liu, J., Shu, W., Fagan, M.B., Nunberg, J.H. and Lu, M. 2001. Structural and functional analysis of the HIV-1 gp41 core containing an Ile573 to Thr substitution: implications for membrane fusion. Biochemistry 40: 2797-2807.
- Jiang, W., Jin, N., Cui, S., Li, Z., Zhang, L., Zhang, H., Wang, H. and Han, W. 2005. Construction and characterization of recombinant fowlpox virus coexpressing HIV-1(CN) gp120 and IL-2. J. Virol. Methods 130: 95-101.
- Wang, H.W., Cole, D., Jiang, W.Z., Jin, H.T., Fu, N., Chen, Z.L. and Jin, N.Y. 2005. Engineering and functional evaluation of a single-chain antibody against HIV-1 external glycoprotein gp120. Clin. Exp. Immunol. 141: 72-80.
- Sui, Z., Fan, S., Sniderhan, L., Reisinger, E., Litzburg, A., Schifitto, G., Gelbard, H.A., Dewhurst, S. and Maggirwar, S.B. 2006. Inhibition of mixed lineage kinase 3 prevents HIV-1 Tat-mediated neurotoxicity and monocyte activation. J. Immunol. 177: 702-11.
- Price, T.O., Uras, F., Banks, W.A. and Ercal, N. 2006. A novel antioxidant N-acetylcysteine amide prevents gp120- and Tat-induced oxidative stress in brain endothelial cells. Exp. Neurol. 201: 193-202.

SOURCE

HIV gp120 (vT-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HIV gp120 of human immunodeficiency virus type 1 origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17459 P, (100 μg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HIV-1 gp120 (vT-21) is recommeded for detection of gp120 envelope glycoprotein of HIV-1 origin origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of HIV-1 gp120: 120 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2033 and Western Blotting Luminol Reagent: sc-2048.

STORAGE

Store at 4° C, **D0 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS Satisfation Guaranteed

Try **HIV-1 gp120 (A00019.01): sc-81010**, our highly recommended monoclonal alternative to HIV-1 gp120 (vT-21).