

# HIV-1 gp41 (1911): sc-58148

## BACKGROUND

Human immunodeficiency virus (HIV) is a retrovirus that causes acquired immune deficiency syndrome (AIDS), a condition in humans in which the immune system begins to fail, leading to life-threatening opportunistic infections. HIV mainly infects vital cells in the human immune system such as helper T cells (specifically CD4<sup>+</sup> T cells), macrophages and dendritic cells. Two species of HIV infect humans: HIV-1 and HIV-2, with HIV-1 being the more virulent strain. p17 is a structural matrix protein of HIV-1 that enters the nucleus rapidly after viral synthesis. p17 may transfer viral nucleocapsids from the nuclei to plasma membranes which is the location of viral assembly. HIV-1 gp41 is a glyco-envelope protein that exerts various effects on human T cells, B cells, and monocytes such as inhibition of cell proliferation, modulation of MHC expression and cytokine production.

## REFERENCES

1. Boucher, C.A., Krone, W.J., Goudsmit, J., Meloen, R.H., Naylor, P.H., Goldstein, A.L., Sun, D.K. and Sarin, P.S. 1990. Immune response and epitope mapping of a candidate HIV-1 p17 vaccine HGP 30. *J. Clin. Lab. Anal.* 4: 43-47.
2. Jiang, J.D., Chu, F.N., Naylor, P.H., Kirkley, J.E., Mandeli, J., Wallace, J.I., Sarin, P.S., Goldstein, A.L., Holland, J.F. and Bekesi, J.G. 1992. Specific antibody responses to synthetic peptides of HIV-1 p17 correlate with different stages of HIV-1 infection. *J. Acquir. Immune Defic. Syndr.* 5: 382-390.
3. Bukrinskaia, A.G., Vorkunova, G.K. and Tentsov, I.I. 1993. HIV-1 p17 matrix protein is transported into the cell nucleus and binds with genomic viral RNA. *Mol. Biol.* 27: 49-57.
4. Chargelegue, D., O'Toole, C.M. and Colvin, B.T. 1993. A longitudinal study of the IgG antibody response to HIV-1 p17 gag protein in HIV-1<sup>+</sup> patients with haemophilia: titre and avidity. *Clin. Exp. Immunol.* 93: 331-336.
5. Graham, S., Follett, E.A., Wallace, L., Desselberger, U. and Marsden, H.S. 1992. Immunodominant epitopes of HIV-1 p17 and p24. *AIDS Res. Hum. Retroviruses* 8: 1781-1788.
6. Sarin, P.S., Mora, C.A., Naylor, P.H., Markham, R., Schwartz, D., Kahn, J., Heseltine, P., Gazzard, B., Youle, M. and Rios, A., et al. 1995. HIV-1 p17 synthetic peptide vaccine HGP-30: induction of immune response in human subjects and preliminary evidence of protection against HIV challenge in SCID mice. *Cell. Mol. Biol.* 41: 401-407.
7. Kato, T., Suzuki, J., Daimon, M., Sasaki, H. and Ishikawa, K. 1997. Antibodies to the HIV-1 p17 protein cross-react with human superoxide dismutase-2. *Biochem. Biophys. Res. Commun.* 230: 184-187.
8. Chen, Y.H., Speth, C., Wu, W., Stockl, G., Xiao, Y., Yu, T., Ke, Z., Zhao, Y. and Dierich, M.P. 1998. Antigenic characterization of HIV-1 gp41 binding proteins. *Immunol. Lett.* 62: 75-79.
9. Gallo, S.A., Puri, A. and Blumenthal, R. 2001. HIV-1 gp41 six-helix bundle formation occurs rapidly after the engagement of gp120 by CXCR4 in the HIV-1 Env-mediated fusion process. *Biochemistry* 40: 12231-12236.

## SOURCE

HIV-1 gp41 (1911) 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.

## APPLICATIONS

HIV-1 gp41 (1911) is recommended for detection of gp41 envelope glycoprotein of HIV-1 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of HIV-1 gp41 monomer: 40 kDa.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.