SANTA CRUZ BIOTECHNOLOGY, INC.

HIV-1 gp41 (10E9): sc-57812

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The Power to Question

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 $CD4^+$ 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 after viral synthesis. p17 may transfer viral nucleocapsids rapidly 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., et al. 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., et al. 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. Graham, S., et al. 1992. Immunodominant epitopes of HIV-1 p17 and p24. AIDS Res. Hum. Retroviruses 8: 1781-1788.
4. Bukrinskaia, A.G., et al. 1993. HIV-1 p17 matrix protein is transported into the cell nucleus and binds with genomic viral RNA. Mol. Biol. 27: 49-57.
5. Chargelegue, D., et al. 1993. A longitudinal study of the IgG antibody response to HIV-1 p17 gag protein in $HIV\text{-}1^+$ patients with haemophilia: titre and avidity. Clin. Exp. Immunol. 93: 331-336.
6. Sarin, P.S., 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., et al. 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., et al. 1998. Antigenic characterization of HIV-1 gp41 binding proteins. Immunol. Lett. 62: 75-79.
9. Gallo, S.A., et al. 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 (10E9) is a mouse monoclonal antibody raised against whole HIV viral lysate.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HIV-1 gp41 (10E9) 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) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); also recommended for detection of HIV-1 gp160 by Western Blotting.

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

SELECT PRODUCT CITATIONS

1. Jaber, T., et al. 2009. Human Ubc9 contributes to production of fully infectious human immunodeficiency virus type 1 virions. J. Virol. 83: 10448-10459.
2. Wang, Q., et al. 2016. M2BP inhibits HIV-1 virion production in a vimentin filaments-dependent manner. Sci. Rep. 6: 32736.

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 for detailed protocols and support products.