SANTA CRUZ BIOTECHNOLOGY, INC.

HIV-1 Rev (Rev-4): sc-69729

SANTA CRUZ BIOTECHNOLOGY

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 rapidly after viral synthesis. HIV-1 Rev is an RNA-binding, transactivator protein that is readily phosphorylated at separate regions by protein kinase CK2 and MAP kinase. Rev plays a role in viral replication, and it specifically induces the accumulation in the cytoplasm of intron-containing mRNAs normally kept in the nucleus.

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.

SOURCE

HIV-1 Rev (Rev-4) is a mouse monoclonal antibody raised against HIV-1 Rev.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HIV-1 Rev (Rev-4) is available conjugated to agarose (sc-69729 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-69729 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-69729 PE), fluorescein (sc-69729 FITC), Alexa Fluor® 488 (sc-69729 AF488), Alexa Fluor® 546 (sc-69729 AF546), Alexa Fluor® 594 (sc-69729 AF594) or Alexa Fluor® 647 (sc-69729 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-69729 AF680) or Alexa Fluor® 790 (sc-69729 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HIV-1 Rev (Rev-4) is recommended for detection of Rev of HIV-1 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of HIV-1 Rev: 18 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

SELECT PRODUCT CITATIONS

1. Wang, P., et al. 2009. Repression of classical nuclear export by S-nitrosylation of CRM1. J. Cell Sci. 122: 3772-3779.
2. Behrens, R.T., et al. 2017. NES masking regulates HIV-1 Rev trafficking and viral RNA nuclear export. J. Virol. 91: e02107-16.
3. Yue, Y., et al. 2018. Differential interaction between human and murine CRM1 and lentiviral Rev proteins. Virology 513: 1-10.
4. Lu, W., et al. 2019. The polar region of the HIV-1 envelope protein determines viral fusion and infectivity by stabilizing the gp120-gp41 association. J. Virol. 93: e02128-18.
5. Mete, B., et al. 2022. Human immunodeficiency virus type 1 impairs sumoylation. Life Sci. Alliance 5: e202101103.
6. Hansen, T., et al. 2022. Cell-based and cell-free firefly luciferase complementation assay to quantify human immunodeficiency virus type 1 Rev-Rev interaction. Virology 576: 30-41.
7. Iyer, K., et al. 2022. Identification of 5' upstream sequence involved in HSPBP1 gene transcription and its downregulation during HIV-1 infection. Virus Res. 324: 199034.

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.