

HIV-1 Integrase (IN-2): sc-69721

BACKGROUND

The human immunodeficiency virus type 1 (HIV-1) uses an enzyme HIV-1 Integrase to carry out the integration of its viral DNA into the host chromosome, thereby tricking the host cell machinery into making viral proteins. HIV-1 Integrase is a viral protein that catalyzes the first two steps of the three-step DNA integration process and belongs to the superfamily of polynucleotidyl transferases. The integration of HIV-1 DNA into the host chromosome is achieved by the integrase protein performing a series of DNA cleaving and ligation reactions. The C-terminal domain of HIV-1 Integrase forms a homodimer, consisting of two structures that are similar to Src-homology 3 (SH3) domains, while the N-terminal domain of HIV-1 Integrase contains a pair of His and Cys residues (the HHCC motif) that are conserved among retroviral integrases. Zinc binds to the HHCC motif and supports the folded state of the N-terminus.

REFERENCES

- Engelman, A., et al. 1993. Identification of discrete functional domains of HIV-1 Integrase and their organization within an active multimeric complex. *EMBO J.* 12: 3269-3275.
- Dyda, F., et al. 1994. Crystal structure of the catalytic domain of HIV-1 Integrase: similarity to other polynucleotidyl transferases. *Science* 266: 1981-1986.
- Eijkelenboom, A.P., et al. 1995. The DNA-binding domain of HIV-1 Integrase has an SH3-like fold. *Nat. Struct. Biol.* 2: 807-810.

SOURCE

HIV-1 Integrase (IN-2) is a mouse monoclonal antibody raised against HIV-1 Integrase.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HIV-1 Integrase (IN-2) is available conjugated to agarose (sc-69721 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-69721 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-69721 PE), fluorescein (sc-69721 FITC), Alexa Fluor® 488 (sc-69721 AF488), Alexa Fluor® 546 (sc-69721 AF546), Alexa Fluor® 594 (sc-69721 AF594) or Alexa Fluor® 647 (sc-69721 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-69721 AF680) or Alexa Fluor® 790 (sc-69721 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

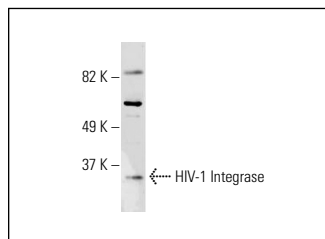
HIV-1 Integrase (IN-2) is recommended for detection of Pol Integrase of HIV-1 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of HIV-1 Integrase: 32 kDa.

STORAGE

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

DATA



HIV-1 Integrase (IN-2): sc-69721. Western blot analysis of HIV-1 Integrase expression in semi-purified HIV-1 virions.

SELECT PRODUCT CITATIONS

- Thierry, S., et al. 2015. Integrase inhibitor reversal dynamics indicate unintegrated HIV-1 DNA initiate *de novo* integration. *Retrovirology* 12: 24.
- Zhang, X., et al. 2016. Identification of interaction between HIV-1 glycoprotein 41 and integrase. *Virology* 511: 415-424.
- Martinez, Z.S., et al. 2016. Fullerene derivatives strongly inhibit HIV-1 replication by affecting virus maturation without impairing protease activity. *Antimicrob. Agents Chemother.* 60: 5731-5741.
- Kim, H., et al. 2018. HBV polymerase-derived peptide exerts an anti-HIV-1 effect by inhibiting the acetylation of viral integrase. *Biochem. Biophys. Res. Commun.* 501: 541-546.
- Ali, H., et al. 2019. Cellular TRIM33 restrains HIV-1 infection by targeting viral integrase for proteasomal degradation. *Nat. Commun.* 10: 926.
- Yadav, P., et al. 2019. Interaction of HIV-1 integrase with polypyrimidine tract binding protein and associated splicing factor (PSF) and its impact on HIV-1 replication. *Retrovirology* 16: 12.
- Allouch, A., et al. 2020. SUGT1 controls susceptibility to HIV-1 infection by stabilizing microtubule plus-ends. *Cell Death Differ.* 27: 3243-3257.
- Mete, B., et al. 2022. Human immunodeficiency virus type 1 impairs sumoylation. *Life Sci. Alliance* 5: e202101103.
- Liang, G., et al. 2022. CTNBL1 restricts HIV-1 replication by suppressing viral DNA integration into the cell genome. *Cell Rep.* 38: 110533.
- Carbone, D., et al. 2024. Triazole derivatives inhibit the VOR complex-mediated nuclear transport of extracellular particles: potential application in cancer and HIV-1 infection. *Bioorg. Chem.* 150: 107589.

RESEARCH USE

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