

# SIV-1 Nef (04-001): sc-65911

## BACKGROUND

Simian immunodeficiency virus (SIV) is a retrovirus found amongst primates consisting of multiple strains. In humans, these strains are HIV-1 and HIV-2. HIV-1 is most closely related to the chimpanzee strain SIVcpz. Negative factor (Nef), also called F-protein, is an early protein that functions in optimizing the host cell environment for the replication of virions while preventing apoptosis via inhibition of the FAS and TNFR-mediated death signals and decreasing p53 half-life. The N-terminus of Nef contains myristylation sites which, upon activation, function to anchor the protein on the cytoplasmic side of the plasma membrane. SIV-1 Nef functions as a homodimer that interacts with a variety of proteins including PI 3-kinase. This interaction activates PAK2 and increases production of SIV. SIV-1 Nef plays a role in immune system evasion by down-regulating MHC-I molecules and decreasing CD4 antigens on the cellular surface.

## REFERENCES

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- Lock, M., et al. 1999. Two elements target SIV Nef to the AP-2 clathrin adaptor complex, but only one is required for the induction of CD4 endocytosis. *EMBO J.* 18: 2722-2733.
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- Bresnahan, P.A., et al. 1999. Cutting edge: SIV Nef protein utilizes both leucine- and tyrosine-based protein sorting pathways for downregulation of CD4. *J. Immunol.* 163: 2977-2981.
- Collette, Y., et al. 2000. HIV-2 and SIV Nef proteins target different Src family SH3 domains than does HIV-1 Nef because of a triple amino acid substitution. *J. Biol. Chem.* 275: 4171-4176.
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## SOURCE

SIV-1 Nef (04-001) is a mouse monoclonal antibody raised against recombinant Nef protein of SIV-1 (mac251 strain) origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

SIV-1 Nef (04-001) is recommended for detection of amino acids 71-80 of Nef of SIV-1 origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of SIV-1 Nef: 27-34 kDa.

## SELECT PRODUCT CITATIONS

- Cai, C., et al. 2011. Nef from SIV<sub>mac239</sub> decreases proliferation and migration of adenoid-cystic carcinoma cells and inhibits angiogenesis. *Oral Oncol.* 47: 847-854.
- Cai, C., et al. 2012. SIV<sub>mac239</sub>-Nef down-regulates cell surface expression of CXCR4 in tumor cells and inhibits proliferation, migration and angiogenesis. *Anticancer Res.* 7: 2759-2768.
- Iwami, S., et al. 2012. Quantification system for the viral dynamics of a highly pathogenic simian/human immunodeficiency virus based on an *in vitro* experiment and a mathematical model. *Retrovirology* 9: 18.
- Miyamae, Y., et al. 2020. A method for conditional regulation of protein stability in native or near-native form. *Cell Chem. Biol.* 27: 1573-1581.e3.

## 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.