

# HIV-1 Nef (2F2): sc-130519

## 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. Negative factor (Nef), also called F-protein, is a peripheral membrane protein which acts as a linker molecule in its mediation of protein-protein interactions in host cell signaling pathways. Myristoylated Nef is localized to cytoplasm, Golgi and plasma membrane, but non-myristoylated Nef localizes exclusively to cytoplasm. Nef interacts with Src-family tyrosine kinases and activator molecules for GTPases at its SH3-binding domain. Nef affects the PI 3-kinase sphingomyelinase signaling pathways and downregulates CD4 by triggering rapid endocytosis of cell surface CD4. Nef contains two relatively unstructured loops, through which it interacts with the cellular proteins that coat vesicles involved in membrane trafficking. This interaction is essential for the ability of Nef to control transmembrane protein distribution and to evade the host immune system. This evasion occurs via the inhibition of MHC class II-restricted peptide presentation to specific T cells. Nef does this by reducing the surface level of mature MHC class II while increasing levels of invariant chain-associated, immature MHC class II. Nef is the only HIV-1 gene product capable of this action.

## REFERENCES

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## SOURCE

HIV-1 Nef (2F2) is a mouse monoclonal antibody raised against recombinant Nef protein of HIV-1 (BRU) origin with epitope mapping to amino acids 150-158.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

HIV-1 Nef (2F2) is recommended for detection of Nef of HIV-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 HIV-1 Nef: 27 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.