

# NIRF (L-16): sc-54248

## BACKGROUND

NIRF (Np95/ICBP90-like RING finger protein), also known as E3 ubiquitin-protein ligase UHRF2, nuclear zinc finger protein Np97 or RING finger protein 107, is a nuclear protein involved in cell cycle regulation. NIRF contains a PHD finger, two RING fingers, a ubiquitin-like domain and a YDG/SRA domain. It shares high structural homology with UHRF1 (also called ICBP90 in humans and Np95 in mice), however, in contrast to UHRF1, NIRF acts as a negative regulator of cell proliferation. It associates with the Cdk2-cyclin complex in its dephosphorylated form and induces G<sub>1</sub> arrest. NIRF plays an important role in the regulation of the G<sub>1</sub>/S transition by blocking cell entry into the S phase. While associated with Cdk2, NIRF becomes phosphorylated. NIRF can also act as a ubiquitin ligase and it ubiquitinates PCNP. In addition, NIRF can recruit and bind HDAC1 via its SRA domain. The overexpression of NIRF results in an increase of G<sub>1</sub> phase cells.

## REFERENCES

1. Mori, T., Li, Y., Hata, H., Ono, K. and Kochi, H. 2002. NIRF, a novel RING finger protein, is involved in cell-cycle regulation. *Biochem. Biophys. Res. Commun.* 296: 530-536.
2. Li, Y., Mori, T., Hata, H., Homma, Y. and Kochi, H. 2004. NIRF induces G<sub>1</sub> arrest and associates with Cdk2. *Biochem. Biophys. Res. Commun.* 319: 464-468.
3. Mori, T., Li, Y., Hata, H. and Kochi, H. 2004. NIRF is a ubiquitin ligase that is capable of ubiquitinating PCNP, a PEST-containing nuclear protein. *FEBS Lett.* 557: 209-214.
4. Unoki, M., Nishidate, T. and Nakamura, Y. 2004. ICBP90, an E2F-1 target, recruits HDAC1 and binds to methyl-CpG through its SRA domain. *Oncogene* 23: 7601-7610.
5. Abbady, A.O., Bronner, C., Bathami, K., Muller, C.D., Jeanblanc, M., Mathieu, E., Klein, J.P., Candolfi, E. and Mousli, M. 2005. TCR pathway involves ICBP90 gene down-regulation via E2F binding sites. *Biochem. Pharmacol.* 70: 570-579.

## CHROMOSOMAL LOCATION

Genetic locus: UHRF2 (human) mapping to 9p24.1; Uhrf2 (mouse) mapping to 19 C1.

## SOURCE

NIRF (L-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NIRF of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-54248 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-54248 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NIRF (L-16) is recommended for detection of NIRF isoform 1 of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NIRF (L-16) is also recommended for detection of NIRF isoform 1 in additional species, including equine and canine.

Suitable for use as control antibody for NIRF siRNA (h): sc-72380, NIRF siRNA (m): sc-72381, NIRF shRNA Plasmid (h): sc-72380-SH, NIRF shRNA Plasmid (m): sc-72381-SH, NIRF shRNA (h) Lentiviral Particles: sc-72380-V and NIRF shRNA (m) Lentiviral Particles: sc-72381-V.

NIRF (L-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of NIRF: 90 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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) or our catalog for detailed protocols and support products.



Try **NIRF (C-10): sc-398953**, our highly recommended monoclonal alternative to NIRF (L-16).