

# NFU1 (Y-17): sc-243607

## BACKGROUND

NFU1 (NFU1 iron-sulfur cluster scaffold homolog (*S. cerevisiae*)), also known as HIRIP5 (HIRA-interacting protein 5), MMDS1, NIFUC or CGI-33, is a 254 amino acid iron-sulfur cluster scaffold protein that plays an important role in the assembly of iron-sulfur clusters and their subsequent delivery to target proteins. Ubiquitously expressed, NFU1 is present in both embryonic and adult tissue, and belongs to the nifU family. NFU1 exists as three alternatively spliced isoforms and localizes to both the cytoplasm and mitochondria. The gene encoding NFU1 maps to human chromosome 2, which consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin ichthyosis, sitosterolemia and Alström syndrome.

## REFERENCES

1. Patel, S.B., et al. 1998. Mapping a gene involved in regulating dietary cholesterol absorption. The sitosterolemia locus is found at chromosome 2p21. *J. Clin. Invest.* 102: 1041-1044.
2. Zumsteg, U., et al. 2000. Alstrom syndrome: confirmation of linkage to chromosome 2p12-13 and phenotypic heterogeneity in three affected sibs. *J. Med. Genet.* 37: E8.
3. Lorain, S., et al. 2001. Identification of human and mouse HIRA-interacting protein-5 (HIRIP5), two mammalian representatives in a family of phylogenetically conserved proteins with a role in the biogenesis of Fe/S proteins. *Biochim. Biophys. Acta* 1517: 376-383.
4. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (White) gene subfamily maps to human chromosome 2p21 in the region of the Sitosterolemia locus. *Cytogenet. Cell Genet.* 92: 204-208.
5. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. *Nat. Genet.* 31: 79-83.
6. Ganesh, S., et al. 2003. The Lafora disease gene product laforin interacts with HIRIP5, a phylogenetically conserved protein containing a NifU-like domain. *Hum. Mol. Genet.* 12: 2359-2368.
7. Tong, W.H., et al. 2003. Subcellular compartmentalization of human Nfu, an iron-sulfur cluster scaffold protein, and its ability to assemble a [4Fe-4S] cluster. *Proc. Natl. Acad. Sci. USA* 100: 9762-9767.
8. Kelsell, D.P., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. *Am. J. Hum. Genet.* 76: 794-803.

## CHROMOSOMAL LOCATION

Genetic locus: NFU1 (human) mapping to 2p13.3; Nfu1 (mouse) mapping to 6 D1.

## SOURCE

NFU1 (Y-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NFU1 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-243607 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NFU1 (Y-17) is recommended for detection of NFU1 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).

NFU1 (Y-17) is also recommended for detection of NFU1 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for NFU1 siRNA (h): sc-94629, NFU1 siRNA (m): sc-149947, NFU1 shRNA Plasmid (h): sc-94629-SH, NFU1 shRNA Plasmid (m): sc-149947-SH, NFU1 shRNA (h) Lentiviral Particles: sc-94629-V and NFU1 shRNA (m) Lentiviral Particles: sc-149947-V.

Molecular Weight of NFU1 isoforms: 28/12/26 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.