

NSFL1C p47 (h): 293T Lysate: sc-175045

BACKGROUND

NSFL1C p47, also known as p47, NSFL1C, UBX1, UBXD10 or UBXN2C, is a 370 amino acid protein that localizes to both the nucleus and the Golgi apparatus (specifically to Golgi stacks) and contains one SEP domain and one UBX domain. Functioning as part of a ternary complex with VCP (a protein involved in the heterotypic fusion of transport vesicles with their target membranes) and Syntaxin 5, NSFL1C p47 interacts with and reduces the ATPase activity of VCP and is required for the fragmentation of Golgi stacks during mitosis and for subsequent reassembly of Golgi stacks after mitosis. NSFL1C p47 is subject to phosphorylation during mitosis, which inhibits NSFL1C p47-Golgi interaction and is, therefore, required for proper Golgi stack formation and cisternal regrowth. Human NSFL1C p47 shares 89% sequence identity with its mouse counterpart, suggesting a conserved role between species. Multiple isoforms of NSFL1C p47 exist due to alternative splicing events.

REFERENCES

1. Kondo, H., et al. 1997. p47 is a cofactor for p97-mediated membrane fusion. *Nature* 388: 75-78.
2. Rabouille, C., et al. 1998. Syntaxin 5 is a common component of the NSF- and p97-mediated reassembly pathways of Golgi cisternae from mitotic Golgi fragments *in vitro*. *Cell* 92: 603-610.
3. Ye, Y., et al. 2001. The AAA ATPase Cdc48/p97 and its partners transport proteins from the ER into the cytosol. *Nature* 414: 652-656.
4. Meyer, H.H., et al. 2002. Direct binding of ubiquitin conjugates by the mammalian p97 adaptor complexes, p47 and Ufd1-Npl4. *EMBO J.* 21: 5645-5652.
5. Uchiyama, K., et al. 2002. VCIP135, a novel essential factor for p97/p47-mediated membrane fusion, is required for Golgi and ER assembly *in vivo*. *J. Cell Biol.* 159: 855-866.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606610. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Uchiyama, K., et al. 2003. The localization and phosphorylation of p47 are important for Golgi disassembly-assembly during the cell cycle. *J. Cell Biol.* 161: 1067-1079.
8. Nagahama, M., et al. 2003. SVIP is a novel VCP/p97-interacting protein whose expression causes cell vacuolation. *Mol. Biol. Cell* 14: 262-273.
9. Bruderer, R.M., et al. 2004. The AAA ATPase p97/VCP interacts with its alternative co-factors, Ufd1-Npl4 and p47, through a common bipartite binding mechanism. *J. Biol. Chem.* 279: 49609-49616.

CHROMOSOMAL LOCATION

Genetic locus: NSFL1C (human) mapping to 20p13.

PRODUCT

NSFL1C p47 (h): 293T Lysate represents a lysate of human NSFL1C p47 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

NSFL1C p47 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive NSFL1C p47 antibodies. Recommended use: 10-20 µl per lane.

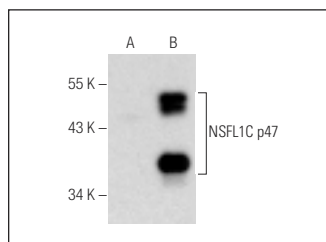
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

NSFL1C p47 (E-7): sc-376614 is recommended as a positive control antibody for Western Blot analysis of enhanced human NSFL1C p47 expression in NSFL1C p47 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



NSFL1C p47 (E-7): sc-376614. Western blot analysis of NSFL1C p47 expression in non-transfected: sc-117752 (A) and human NSFL1C p47 transfected: sc-175045 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.