

NSFL1C p47 (E-7): sc-376614

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.

CHROMOSOMAL LOCATION

Genetic locus: NSFL1C (human) mapping to 20p13; Nsf1c (mouse) mapping to 2 G3.

SOURCE

NSFL1C p47 (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 87-121 within an internal region of NSFL1C p47 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376614 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

NSFL1C p47 (E-7) is recommended for detection of NSFL1C p47 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

NSFL1C p47 (E-7) is also recommended for detection of NSFL1C p47 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NSFL1C p47 siRNA (h): sc-76032, NSFL1C p47 siRNA (m): sc-151963, NSFL1C p47 shRNA Plasmid (h): sc-76032-SH, NSFL1C p47 shRNA Plasmid (m): sc-151963-SH, NSFL1C p47 shRNA (h) Lentiviral Particles: sc-76032-V and NSFL1C p47 shRNA (m) Lentiviral Particles: sc-151963-V.

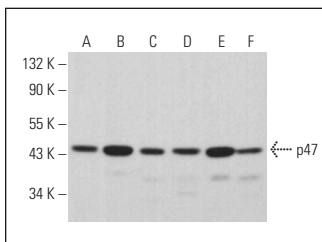
Molecular Weight of NSFL1C p47: 47 kDa.

Positive Controls: NSFL1C p47 (h): 293T Lysate: sc-175045, HeLa whole cell lysate: sc-2200 or c4 whole cell lysate: sc-364186.

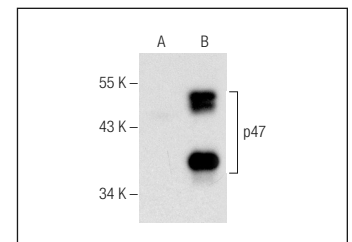
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



p47 (E-7): sc-376614. Western blot analysis of p47 expression in HeLa (A), BJAB (B), BYDP (C), IB4 (D), c4 (E) and C6 (F) whole cell lysates.



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

SELECT PRODUCT CITATIONS

1. Guo, X. and Qi, X. 2017. VCP cooperates with UBXD1 to degrade mitochondrial outer membrane protein MCL1 in model of Huntington's disease. *Biochim. Biophys. Acta* 1863: 552-559.

RESEARCH USE

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