

# Nup93 (3332C2a): sc-81343

## BACKGROUND

The nuclear pore complex (NPC) mediates bidirectional macromolecular traffic between the nucleus and cytoplasm in eukaryotic cells and is comprised of more than 100 different subunits. Many of the subunits belong to a family called nucleoporins (Nups), which are characterized by the presence of O-linked-N-acetylglucosamine moieties and a distinctive pentapeptide repeat (XFXFG). Nup93 (nucleoporin 93) is the most abundant nucleoporin found per NPC, contributing over 10% of the mass. It localizes to the nuclear side of the NPC, predominantly in the basket terminal ring area, and exists in a complex with Nup188, Nup53 and Nup205. This complex is crucial for NPC stability and proper assembly. Nup93 interacts directly with the Nup62 complex located at the center of the NPC and thus tethers the two subcomplexes. Nup93 is composed of a coiled-coil domain at its N-terminus and a C-terminal helical domain. Its proper function is essential for cell viability and normal NPC function.

## REFERENCES

1. Grandi, P., et al. 1997. Nup93, a vertebrate homologue of yeast Nic96p, forms a complex with a novel 205 kDa protein and is required for correct nuclear pore assembly. *Mol. Biol. Cell* 8: 2017-2038.
2. Kosova, B., et al. 1999. Nup192p is a conserved nucleoporin with a preferential location at the inner site of the nuclear membrane. *J. Biol. Chem.* 274: 22646-22651.
3. Hase, M.E. and Cordes, V.C. 2003. Direct interaction with Nup153 mediates binding of Tpr to the periphery of the nuclear pore complex. *Mol. Biol. Cell* 14: 1923-1940.
4. Galy, V., et al. 2003. *Caenorhabditis elegans* nucleoporins Nup93 and Nup205 determine the limit of nuclear pore complex size exclusion *in vivo*. *Mol. Biol. Cell* 14: 5104-5115.
5. Krull, S., et al. 2004. Nucleoporins as components of the nuclear pore complex core structure and TPR as the architectural element of the nuclear basket. *Mol. Biol. Cell* 15: 4261-4277.
6. Hawryluk-Gara, L.A., et al. 2005. Vertebrate Nup53 interacts with the nuclear lamina and is required for the assembly of a Nup93-containing complex. *Mol. Biol. Cell* 16: 2382-2394.
7. Ryan, C.M., et al. 2006. Functional interaction of CREB binding protein (CBP) with nuclear transport proteins and modulation by HDAC inhibitors. *Cell Cycle* 5: 2146-2152.

## CHROMOSOMAL LOCATION

Genetic locus: NUP93 (human) mapping to 16q13; Nup93 (mouse) mapping to 8 C5.

## SOURCE

Nup93 (3332C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of Nup93 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

## APPLICATIONS

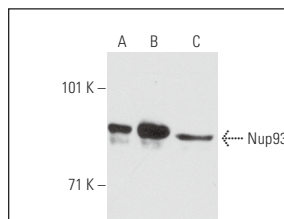
Nup93 (3332C2a) is recommended for detection of Nup93 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Nup93 siRNA (h): sc-75982, Nup93 siRNA (m): sc-75983, Nup93 shRNA Plasmid (h): sc-75982-SH, Nup93 shRNA Plasmid (m): sc-75983-SH, Nup93 shRNA (h) Lentiviral Particles: sc-75982-V and Nup93 shRNA (m) Lentiviral Particles: sc-75983-V.

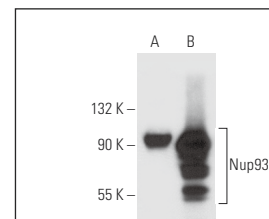
Molecular Weight of Nup93: 90 kDa.

Positive Controls: Nup93 (h): 293T Lysate: sc-113867, Nup93 (m): 293T Lysate: sc-122177 or HeLa whole cell lysate: sc-2200.

## DATA



Nup93 (3332C2a): sc-81343. Western blot analysis of Nup93 expression in non-transfected 293T: sc-117752 (A), human Nup93 transfected 293T: sc-113867 (B) and HeLa (C) whole cell lysates.



Nup93 (3332C2a): sc-81343. Western blot analysis of Nup93 expression in non-transfected: sc-117752 (A) and mouse Nup93 transfected: sc-122177 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Guo, Y. and Zheng, Y. 2015. Lamins position the nuclear pores and centrosomes by modulating dynein. *Mol. Biol. Cell* 26: 3379-3389.
2. Sun, L., et al. 2015. Identification of proteins associated with Aha1 in HeLa cells by quantitative proteomics. *Biochim. Biophys. Acta* 1854: 365-380.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## PROTOCOLS

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