

Nup93 (E-8): sc-374399



The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

Nup93 (E-8) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Nup93 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nup93 (E-8) is available conjugated to agarose (sc-374399 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374399 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374399 PE), fluorescein (sc-374399 FITC), Alexa Fluor® 488 (sc-374399 AF488), Alexa Fluor® 546 (sc-374399 AF546), Alexa Fluor® 594 (sc-374399 AF594) or Alexa Fluor® 647 (sc-374399 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374399 AF680) or Alexa Fluor® 790 (sc-374399 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Nup93 (E-8) is recommended for detection of Nup93 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

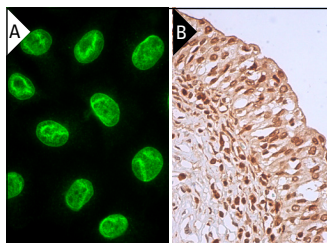
Suitable for use as control antibody for Nup93 siRNA (h): sc-75982, Nup93 siRNA (m): sc-75983, Nup93 shRNA Plasmid (h): sc-75982-SH, Nup93 shRNA Plasmid (m): sc-75983-SH, Nup93 shRNA (h) Lentiviral Particles: sc-75982-V and Nup93 shRNA (m) Lentiviral Particles: sc-75983-V.

Molecular Weight of Nup93: 90 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or T24 cell lysate: sc-2292.

STORAGE

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

DATA

Nup93 (E-8): sc-374399. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear envelope localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear staining of urothelial cells (B).

SELECT PRODUCT CITATIONS

- Gao, L.L., et al. 2017. ZP3 is required for germinal vesicle breakdown in mouse oocyte meiosis. *Sci. Rep.* 7: 41272.
- Oldrini, B., et al. 2017. EGFR feedback-inhibition by Ran-binding protein 6 is disrupted in cancer. *Nat. Commun.* 8: 2035.
- Ilicheva, N., et al. 2018. The karyosphere capsule in *Rana temporaria* oocytes contains structural and DNA-binding proteins. *Nucleus* 9: 516-529.
- Ilicheva, N.V., et al. 2019. Actin depolymerization disrupts karyosphere capsule integrity but not residual transcription in late oocytes of the grass frog *Rana temporaria*. *J. Cell. Biochem.* 120: 15057-15068.
- Gomez, G.N., et al. 2019. SARS coronavirus protein nsp1 disrupts localization of Nup93 from the nuclear pore complex. *Biochem. Cell Biol.* 97: 758-766.
- Coyne, A.N., et al. 2020. G₄C₂ repeat RNA initiates a POM121-mediated reduction in specific nucleoporins in C9orf72 ALS/FTD. *Neuron* 107: 1124-1140.e11.
- Nataraj, N.B., et al. 2022. Nucleoporin-93 reveals a common feature of aggressive breast cancers: robust nucleocytoplasmic transport of transcription factors. *Cell Rep.* 38: 110418.
- Shen, W., et al. 2022. Comprehensive maturity of nuclear pore complexes regulates zygotic genome activation. *Cell* 185: 4954-4970.e20.
- Neely, A.E., et al. 2023. Nucleoporin downregulation modulates progenitor differentiation independent of nuclear pore numbers. *Commun. Biol.* 6: 1033.

RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA