SANTA CRUZ BIOTECHNOLOGY, INC.

Nup98 (C-7): sc-74553

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Nuclear pore complexes (NPCs) are the channels for the bi-directional movement of macromolecules between the nucleus and cytoplasm, and contain more than 100 different subunits. Many of them belong to a family called nucleoporins, which are characterized by the presence of O-linked N-acetyl-glucosamine moieties and a distinctive pentapeptide repeat (XFXFG). The Nup98 gene encodes precursor proteins that generate two nucleoplasmically oriented nucleoporins, Nup98 and Nup96. The O-linked glycoprotein, Nup98 is a component of the nuclear pore complex. Nup98 is essential for gastrulation, a developmental stage that is associated with rapid cell proliferation, but dispensable for basal cell growth. Nup98 plays a role in RNA export from the nucleus and it appears to be an essential component of multiple RNA export pathways. Nup98 is a member of the GLFG nucleoporin family. The t(7;11)(p15;p15) translocation in acute myeloid leukaemia fuses the genes for Nup98 and class I homeoprotein HoxA9. Nup98-HoxA9 fusion protein may promote leukemogenesis through inhibiting of HoxA9-mediated terminal differentiation and/or aberrant nucleocytoplasmic transport.

CHROMOSOMAL LOCATION

Genetic locus: NUP98 (human) mapping to 11p15.4; Nup98 (mouse) mapping to 7 E3.

SOURCE

Nup98 (C-7) is a mouse monoclonal antibody raised against amino acids 581-880 mapping within an internal region of Nup98 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.

Nup98 (C-7) is available conjugated to agarose (sc-74553 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74553 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74553 PE), fluorescein (sc-74553 FITC), Alexa Fluor® 488 (sc-74553 AF488), Alexa Fluor® 546 (sc-74553 AF546), Alexa Fluor® 594 (sc-74553 AF594) or Alexa Fluor® 647 (sc-74553 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74553 AF680) or Alexa Fluor® 790 (sc-74553 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Nup98 (C-7) is recommended for detection of Nup98 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).

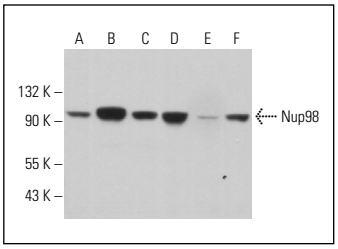
Suitable for use as control antibody for Nup98 siRNA (h): sc-43535, Nup98 siRNA (m): sc-43536, Nup98 shRNA Plasmid (h): sc-43535-SH, Nup98 shRNA Plasmid (m): sc-43536-SH, Nup98 shRNA (h) Lentiviral Particles: sc-43535-V and Nup98 shRNA (m) Lentiviral Particles: sc-43536-V.

Molecular Weight of Nup98: 97 kDa.

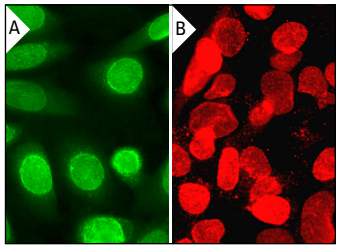
STORAGE

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

DATA



Nup98 (C-7): sc-74553. Western blot analysis of Nup98 expression in K-562 (**A**), HeLa (**B**), NAMALWA (**C**), Neuro-2A (**D**), BYDP (**E**) and A-10 (**F**) whole cell lysates.



Nup98 (C-7) Alexa Fluor® 488: sc-74553 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing nuclear membrane localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). Nup98 (C-7): sc-74553. Direct immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear membrane localization. Nup98 (C-7) antibody was conjugated to CruzFluor® 594 succinimidyl ester: sc-362619 (**B**).

SELECT PRODUCT CITATIONS

1. Voronina, E. and Seydoux, G. 2010. The *C. elegans* homolog of nucleoporin Nup98 is required for the integrity and function of germline P granules. Development 137: 1441-1450.
2. Lu, M., et al. 2014. A code for RanGDP binding in ankyrin repeats defines a nuclear import pathway. Cell 157: 1130-1145.
3. Salsi, V., et al. 2016. Nup98 fusion oncoproteins interact with the APC/C (Cdc20) as a pseudosubstrate and prevent mitotic checkpoint complex binding. Cell Cycle 15: 2275-2287.
4. Eftekharzadeh, B., et al. 2018. Tau protein disrupts nucleocytoplasmic transport in Alzheimer's disease. Neuron 99: 925-940.e7.
5. Lee, D.H., et al. 2020. Increased O-GlcNAcylation of c-Myc promotes pre-B cell proliferation. Cells 9: 158.
6. Zhang, S., et al. 2020. The ataxin-1 interactome reveals direct connection with multiple disrupted nuclear transport pathways. Nat. Commun. 11: 3343.
7. Kato, K., et al. 2021. Overexpression of SARS-CoV-2 protein ORF6 dislocates RAE1 and Nup98 from the nuclear pore complex. Biochem. Biophys. Res. Commun. 536: 59-66.
8. McGoldrick, P., et al. 2023. Loss of C9orf72 perturbs the Ran-GTPase gradient and nucleocytoplasmic transport, generating compositionally diverse Importin β-1 granules. Cell Rep. 42: 112134.

RESEARCH USE

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