abcam

Product datasheet

Anti-NUP98 antibody [2H10] - Nuclear Pore Marker ab50610

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Overview

Product name	Anti-NUP98 antibody [2H10] - Nuclear Pore Marker
Description	Rat monoclonal [2H10] to NUP98 - Nuclear Pore Marker
Host species	Rat
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human, African green monkey
Immunogen	Recombinant fragment corresponding to Human NUP98 aa 1-466.
Positive control	WB: HeLa nuclear lysate. Jurkat, HeLa, COS-7, NIH/3T3 and SH-SY5Y cell lysate. ICC/IF: HeLa and NIH/3T3 cells.
General notes	This product was changed from ascites to tissue culture supernatant on 17 May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40 Preservative: 0.097% Sodium azide Constituent: 0.0268% PBS
Purity	Tissue culture supernatant
Purification notes	Purified from TCS.

Clonality	Monoclonal
Clone number	2H10
Myeloma	Sp2
Isotype	IgG2c
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab50610 in the following tested applications.

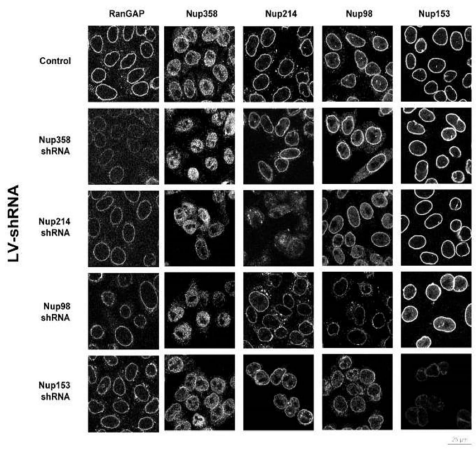
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ (2)	1/1000. Detects a band of approximately 98 kDa.
ICC/IF	★★★★☆ (1)	Use at an assay dependent concentration. Customers have reported that Paraformaldehyde/Triton x-100 fixation provides better results, with sharp, regularly punctuate perinuclear signals. In MetOH fixed cells, the signal intensity can be somehwat lower and fuzzier and that single nucleoporin dots can be harder to distinguish around nuclear chromatin. Please see images below.

Target

Function	Nup98 and Nup96 play a role in the bidirectional transport across the nucleoporin complex (NPC). The repeat domain in Nup98 has a direct role in the transport.
Involvement in disease	Note=A chromosomal aberration involving NUP98 is found in a form of acute myeloid leukemia. Translocation t(7;11)(p15;p15) with HOXA9. Translocation t(11;17)(p15;p13) with PHF23. Note=A chromosomal aberration involving NUP98 is found in childhood acute myeloid leukemia. Translocation t(5;11)(q35;p15.5) with NSD1. Translocation t(8;11)(p11.2;p15) with WHSC1L1. Note=A chromosomal aberration involving NUP98 is found in a form of therapy-related myelodysplastic syndrome. Translocation t(11;20)(p15;q11) with TOP1. Note=A chromosomal aberration involving NUP98 is found in a form of T-cell acute lymphoblastic leukemia (T-ALL). Translocation t(3;11)(q12.2;p15.4) with LNP1. Note=A chromosomal aberration involving NUP98 is associated with pediatric acute myeloid leukemia (AML) with intermediate characteristics between M2-M3 French-American-British (FAB) subtypes. Translocation t(9;11)(p22;p15) with PSIP1/LEDGF. The chimeric transcript is an in-frame fusion of NUP98 exon 8 to PSIP1/LEDGF exon 4.
Sequence similarities	Belongs to the nucleoporin GLFG family. Contains 1 peptidase S59 domain.
Domain	Contains G-L-F-G repeats.
Post-translational modifications	Isoform 1 to isoform 4 are autoproteolytically cleaved to yield Nup98 and Nup96 or Nup98 only, respectively. Cleaved Nup98 is necessary for the targeting of Nup98 to the nuclear pore and the interaction with Nup96.
Cellular localization	Nucleus > nuclear pore complex. Nucleus membrane. Nup96 is localized to the nucleoplasmic side of the nuclear pore complex, at or near the nucleoplasmic basket.

Images



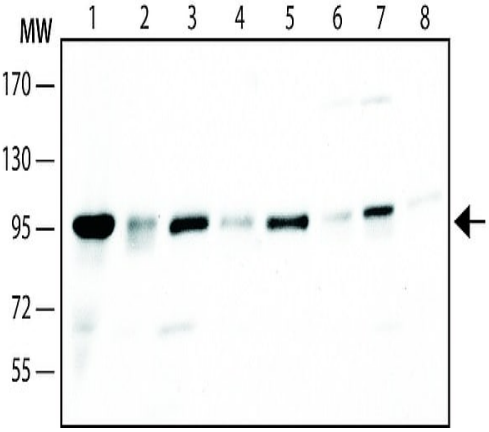
Immunocytochemistry/ Immunofluorescence - Anti-NUP98 antibody [2H10] - Nuclear Pore Marker (ab50610)

Lentiviral vector-encoded shRNAs achieve efficient knock-down of human nucleoporins and have negligible cytotoxic or cytostatic effects.

HeLa cells (4×10^6) were transduced with lentiviral vectors (MOI 50) encoding shRNAs specific for the indicated nucleoporins and used at 2 days p.t for Nup153 shRNA and 5 days p.t for all others.

(Panel B) Subcellular localisation of nuclear pore components upon nucleoporin knock-down was tested by confocal fluorescence microscopy of LV- (Control) and LV-shRNA transduced cells using specific anti-Nup antibodies. Images were acquired on the same day with the same conditions and are representative of two independent experiments.

This image was generated using the ascites version of the product.



Western blot - Anti-NUP98 antibody [2H10] - Nuclear Pore Marker (ab50610)

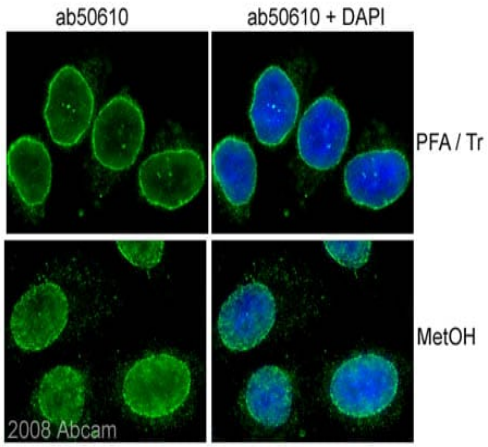
All lanes : Anti-NUP98 antibody [2H10] - Nuclear Pore Marker (ab50610) at 1 µg/ml

Lane 1 : HeLa (human epithelial cell line from cervix adenocarcinoma) nuclear lysate
Lane 2 : HeLa (human epithelial cell line from cervix adenocarcinoma) cell lysate
Lane 3 : Jurkat (human T cell leukemia cell line from peripheral blood) cell lysate
Lane 4 : SH-SY5Y (human neuroblastoma cell line from bone marrow) cell lysate
Lane 5 : COS-7 (african green monkey kidney fibroblast-like cell line) cell lysate
Lane 6 : NIH/3T3 (mouse embyro fibroblast cell line) cell lysate
Lane 7 : P19 cell lysate
Lane 8 : NRK cell lysate

Secondary
All lanes : Goat Anti-Mouse IgG-Peroxidase

Developed using the ECL technique.

This image was generated using the ascites version of the product.



Immunocytochemistry/ Immunofluorescence - Anti-NUP98 antibody [2H10] - Nuclear Pore Marker (ab50610)

Image and protocol courtesy of Rosamaria Mangiacasale, Marilena Ciciarello and Patrizia Lavia, Univ Rome La Sapienza, Italy

ab50610 (1/100) staining NUP98 in HeLa (Human epithelial cell line from cervix adenocarcinoma) cells (green).

Cells were fixed with paraformaldehyde/Triton X-100 [10 min in PTEMF buffer (20mM PIPES, 1mM $MgCl_2$, 10mM EGTA, 4% PFA) /0.2% Triton X-100 at room temperature] or methanol (6 min in methanol -20 °C , followed by 3 washes in 1x PBS) and counterstained with DAPI in order to highlight the nucleus (blue).

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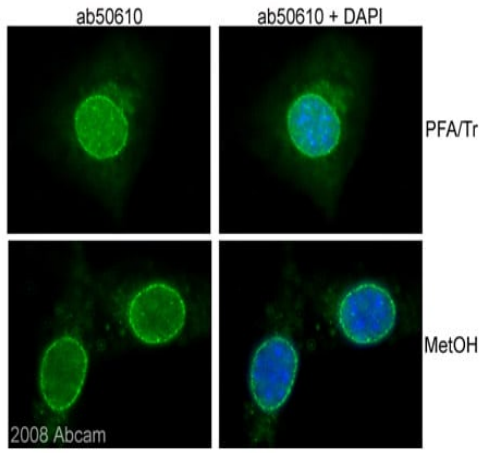

Immunocytochemistry/ Immunofluorescence - Anti-NUP98 antibody [2H10] - Nuclear Pore Marker (ab50610)

Image and protocol courtesy of Rosamaria Mangiacasale, Marilena Ciciarello and Patrizia Lavia, Univ Rome La Sapienza, Italy

ab50610 (1/100) staining NUP98 in NIH/3T3 (Mouse embryo fibroblast cell line) cells (green).

Cells were fixed with paraformaldehyde/Triton X-100 (10 min in PTEMF buffer (20mM PIPES, 1mM $MgCl_2$, 10mM EGTA, 4% PFA) /0.2% Triton X-100 at room temperature) or methanol (6 min in methanol -20 °C , followed by 3 washes in 1x PBS) and counterstained with DAPI in order to highlight the nucleus (blue).

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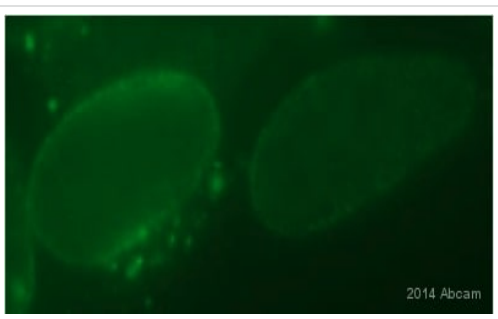

Immunocytochemistry/ Immunofluorescence - Anti-NUP98 antibody [2H10] - Nuclear Pore Marker (ab50610)

This image is courtesy of an anonymous Abreview.

Paraformaldehyde-fixed, 0.5% Triton X-100 permeabilized HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells stained for NUP98 (green) using ab50610 at 1/200 dilution in ICC/IF, followed by Donkey Anti-Rat Alexa Fluor® 488.

This image was generated using the ascites version of the product.

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