Revision 1

Store at -20C

#12247

Nucleolin Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	100	Rabbit	#P19338	4691

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Nucleolin Antibody recognizes endogenous levels of total nucleolin protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human nucleolin protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Nucleolin is a multi-functional protein that is one of the major components of the nucleoli (1). Nucleolin plays an essential role in various steps of ribosome biogenesis including rRNA synthesis, processing of pre-rRNA, pre-ribosomal RNA assembly, and transport of ribosomal proteins out of the nucleus (1-3). While the main function of nucleolin is ribosome biogenesis, it plays an important role in various other nuclear activities. Down regulation of nucleolin leads to increased expression of p53, defects in genome duplication, and a delay at prometaphase during mitosis leading to cell cycle arrest (4-6). In addition, nucleolin has been found in a complex with Rad51 and may participate in DNA repair by homologous recombination (7). Nucleolin binds to the catalytic subunit of the human telomerase reverse transcriptase, hTERT, and is thought to be involved in telomere maintenance (8). Nucleolin also possesses histone chaperone activity and is able to enhance the chromatin remodeling efficiency of SWItch/Sucrose Non Fermentable (SWI/SNF) and ATP-dependent chromatin-assembly factor (ACF), remove histone H2A-H2B dimers from nucleosomes, and facilitate the passage of RNA polymerase through chromatin (9).

Background References

1. Tajrishi, M.M. et al. (2011) *Commun Integr Biol* 4, 267-75.
2. Ginisty, H. et al. (1999) *J Cell Sci* 112 (Pt 6), 761-72.
3. Srivastava, M. and Pollard, H.B. (1999) *FASEB J* 13, 1911-22.
4. Takagi, M. et al. (2005) *Cell* 123, 49-63.
5. Ugrinova, I. et al. (2007) *BMC Mol Biol* 8, 66.
6. Ma, N. et al. (2007) *J Cell Sci* 120, 2091-105.
7. De, A. et al. (2006) *Biochem Biophys Res Commun* 344, 206-13.
8. Khurts, S. et al. (2004) *J Biol Chem* 279, 51508-15.
9. Angelov, D. et al. (2006) *EMBO J* 25, 1669-79.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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Limited Uses

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