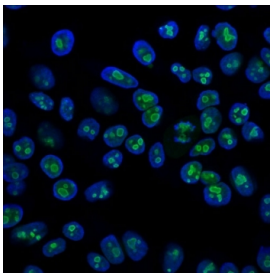
Nucleolin Antibody for IF / NCL Immunofluorescence Antibody [clone SPM614] (V2756)

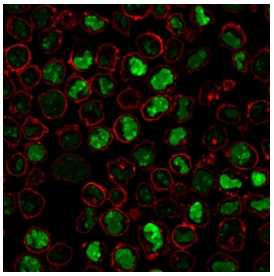
Catalog No.	Formulation	Size
V2756-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2756-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2756SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2756IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

Bulk quote request

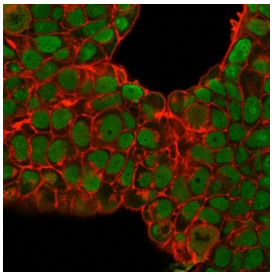
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	SPM614
Purity	Protein G affinity chromatography
UniProt	P19338
Localization	Nucleoli
Applications	Flow cytometry: 1-2ug/10^6 cells Immunofluorescence: 1-4ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This anti-Nucleolin antibody is available for research use only.



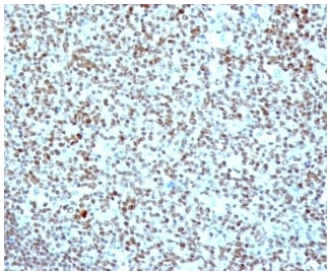
Nucleolin Antibody for IF - Immunofluorescence analysis of human HeLa cells. Immunofluorescent staining of PFA-fixed human HeLa cells with Nucleolin Antibody for IF clone SPM614. The mouse monoclonal antibody produces strong nucleolar staining consistent with the known localization of Nucleolin / NCL, a major nucleolar RNA-binding protein involved in ribosome biogenesis. Green fluorescence marks Nucleolin-positive nucleoli, while DAPI (blue) stains cell nuclei.



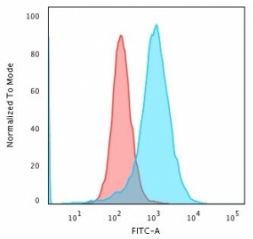
Nucleolin Antibody for IF - Immunofluorescence analysis of human K562 cells. Immunofluorescent staining of PFA-fixed human K562 cells with Nucleolin Antibody for IF clone SPM614. The mouse monoclonal antibody labels nucleolar compartments consistent with the known localization of Nucleolin / NCL. Green fluorescence marks nucleolin-positive nucleoli within the nucleus, while Phalloidin (red) highlights filamentous actin outlining the cell cytoskeleton and cell boundaries.



Nucleolin Antibody for IF - Immunofluorescence analysis of human MCF7 cells. Immunofluorescent staining of PFA-fixed human MCF7 cells with Nucleolin Antibody for IF clone SPM614. The mouse monoclonal antibody highlights nucleolar structures consistent with the expected localization of Nucleolin / NCL. Green fluorescence marks nucleolin-positive nucleoli within the nuclei, while Phalloidin (red) labels filamentous actin outlining the cytoskeleton and cell-cell boundaries.



IHC: Formalin-fixed, paraffin-embedded human tonsil stained with anti-Nucleolin antibody (clone SPM614).



Flow cytometry testing of PFA fixed human K562 cells with anti-Nucleolin antibody (clone SPM614); Red=isotype control, Blue= anti-Nucleolin antibody.

Description

Nucleolin (NCL) is a multifunctional nucleolar phosphoprotein that plays a central role in ribosome biogenesis, chromatin organization, and RNA metabolism. The protein is encoded by the NCL gene located on chromosome 2q37 and is highly abundant in the nucleolus of proliferating cells. Nucleolin participates in several key steps of ribosomal RNA transcription and processing and also functions in ribonucleoprotein assembly and nucleolar architecture. The Nucleolin Antibody for IF clone SPM614 is a mouse monoclonal reagent developed for visualization of Nucleolin distribution in cells using immunofluorescence microscopy, supporting studies of nucleolar structure and RNA regulatory pathways.

Nucleolin belongs to a family of RNA-binding proteins characterized by multiple RNA recognition motifs and glycine- and

arginine-rich regions that facilitate interactions with nucleic acids and ribosomal components. The protein shuttles between the nucleolus, nucleoplasm, and cytoplasm and can also be detected at the cell surface in certain activated or malignant cell types. Because of its dynamic trafficking and strong nucleolar enrichment, a well-characterized NCL IF Antibody can be useful for examining nucleolar morphology, ribosomal biogenesis activity, and stress-induced nucleolar reorganization.

In the literature, NCL antibody reagents are frequently described alongside several widely used aliases for the protein. NCL antibody, also referred to as C23 nucleolin antibody and nucleolar protein NCL antibody, recognizes a protein historically known as nucleolin nucleolar phosphoprotein. The C23 designation originates from early nucleolar protein fractionation studies in which nucleolin was identified as a major nucleolar phosphoprotein involved in ribosomal RNA transcription complexes. These alternative names remain common in ribosome biology, cancer research, and nucleolar organization studies.

Nucleolin expression is strongly associated with cellular proliferation and is elevated in many rapidly dividing cell types. High levels of NCL are frequently observed in tumor cells, where nucleolin contributes to transcriptional regulation, RNA stabilization, and chromatin remodeling. Surface-expressed nucleolin has also been reported in certain malignancies and activated endothelial cells, where it can interact with extracellular ligands and growth factors. Because of these functions, nucleolin is widely studied in cancer biology, nucleolar stress responses, and cell cycle regulation.

At the structural level, nucleolin contains an acidic N-terminal domain, several central RNA recognition motifs that mediate binding to ribosomal RNA and other transcripts, and a glycine- and arginine-rich C-terminal domain involved in protein-protein interactions. These domains enable nucleolin to coordinate ribosomal RNA processing, ribosome assembly, and transport of ribonucleoprotein complexes. Through these interactions, nucleolin helps maintain nucleolar integrity and regulates transcriptional responses to cellular stress.

Because nucleolin is highly enriched in the nucleolus and exhibits a characteristic punctate nuclear distribution, antibodies targeting this protein are frequently used as nucleolar markers in cell imaging studies. A mouse monoclonal Nucleolin Antibody for IF such as clone SPM614 can therefore support visualization of nucleolar compartments, assessment of nucleolar organization during cell cycle progression, and analysis of nucleolar disruption caused by stress or drug treatment. Detection of NCL using immunofluorescence approaches provides researchers with a valuable tool for studying nucleolar dynamics, RNA metabolism, and the cellular mechanisms that regulate ribosome production.

For an alternative monoclonal antibody targeting this nucleolar protein, see our Nucleolin Antibody NCL/902, validated for western blot, immunohistochemistry, immunofluorescence, and flow cytometry.

Application Notes

Optimal dilution of the Nucleolin Antibody for IF should be determined by the researcher.

1. Staining of formalin-fixed tissues is enhanced by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 10-20 min followed by cooling at RT for 20 min.
2. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Recombinant human protein was used as the immunogen for the anti-Nucleolin antibody.

Storage

Store the anti-Nucleolin antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

NCL antibody, C23 nucleolin antibody, nucleolar protein NCL antibody, nucleolin nucleolar phosphoprotein antibody

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