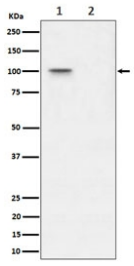
Phosphorylated-Nucleolin Antibody (pT76) [clone 29N32] (RQ8749)

Catalog No.	Formulation	Size
RQ8749	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	29N32
Purity	Affinity chromatography
UniProt	P19338
Applications	Western Blot : 1:500-1:2000
Limitations	This Phosphorylated-Nucleolin Antibody is available for research use only.



Phosphorylated-Nucleolin Antibody (pT76) western blot analysis of human 293T cells. Lane 1: human 293T cell lysate untreated, Lane 2: human 293T cell lysate treated with lambda phosphatase. A band is detected at approximately 100 kDa, consistent with the predicted molecular weight of Nucleolin / NCL. Signal is reduced following phosphatase treatment, supporting phosphorylation-dependent recognition of Nucleolin phosphorylated at Thr76.

Description

Nucleolin (NCL) is a multifunctional nucleolar phosphoprotein that regulates ribosome biogenesis, ribosomal RNA transcription, and nucleolar organization. Encoded by the NCL gene on chromosome 2q37, nucleolin is one of the most abundant proteins within the nucleolus of proliferating cells and plays essential roles in RNA metabolism, chromatin organization, and cellular growth control. Post-translational phosphorylation of nucleolin is a key regulatory mechanism that modulates its activity, localization, and interactions with ribonucleoprotein complexes. The Phosphorylated-Nucleolin Antibody (pT76) clone 29N32 is designed to recognize nucleolin when phosphorylated at threonine 76, enabling

investigation of phosphorylation-dependent nucleolar signaling events.

Phosphorylation of nucleolin occurs in response to multiple signaling pathways that regulate cell cycle progression and cellular stress responses. Modification of NCL at Thr76 has been associated with regulatory changes in nucleolin activity during nucleolar remodeling and ribosomal RNA transcription. Phosphorylation can alter nucleolin's interaction with ribosomal RNA processing factors and chromatin-associated proteins, thereby influencing nucleolar structure and ribosome production. Because nucleolin phosphorylation often correlates with changes in cellular proliferation or stress signaling, detection of phospho-NCL provides valuable insight into nucleolar regulatory pathways.

Nucleolin contains several functional domains that support its diverse biological roles. The acidic N-terminal domain interacts with chromatin and transcription complexes involved in ribosomal RNA synthesis. Four central RNA recognition motifs bind ribosomal RNA and other transcripts, while the glycine- and arginine-rich C-terminal region mediates interactions with nucleic acids and nucleolar proteins. Phosphorylation within the N-terminal regulatory region, including the Thr76 site, can influence nucleolin's interaction with these complexes and affect nucleolar protein dynamics.

NCL antibody reagents are widely described in the literature using several established synonyms for the protein. NCL antibody, also known as nucleolin antibody, C23 nucleolin antibody, and nucleolar protein nucleolin antibody, recognizes a nucleolar phosphoprotein historically referred to as nucleolin nucleolar phosphoprotein. The C23 designation originates from early nucleolar protein fractionation studies that identified nucleolin as a major nucleolar phosphoprotein associated with ribosomal transcription complexes. These alternative names remain common in studies of nucleolar biology and RNA metabolism.

Nucleolin phosphorylation plays important roles in cellular responses to mitogenic signaling, DNA damage, and nucleolar stress. Changes in phosphorylation state can regulate nucleolin redistribution between nucleolar and nucleoplasmic compartments and influence ribosome synthesis during cell cycle transitions. Because phosphorylation-sensitive antibodies specifically recognize the modified form of nucleolin, a phospho-Thr76 NCL antibody provides a valuable tool for examining signaling pathways that control nucleolar activity and cellular proliferation.

Application Notes

Optimal dilution of the Phosphorylated-Nucleolin Antibody (pT76) should be determined by the researcher.

Immunogen

A synthetic peptide specific to the region of human Nucleolin protein surrounding phosphorylated threonine 76 was used as the immunogen for the Phosphorylated-Nucleolin Antibody (pT76).

Storage

Store the Phosphorylated-Nucleolin antibody at -20oC.

Alternate Names

phospho NCL antibody, nucleolin Thr76 phosphorylation antibody, phospho nucleolin T76 antibody, NCL pT76 antibody