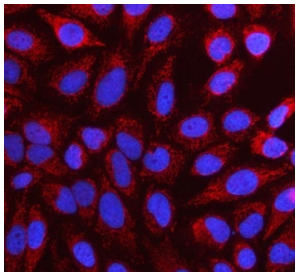
NUBP1 Antibody / Nucleotide-binding protein 1 (RQ8380)

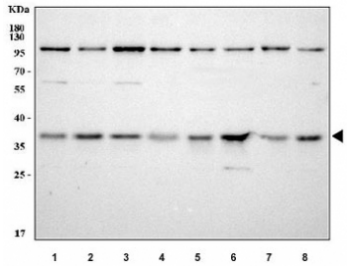
Catalog No.	Formulation	Size
RQ8380	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

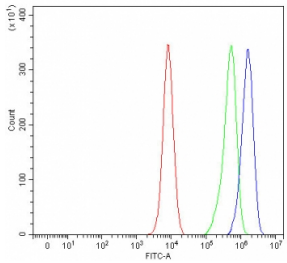
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P53384
Localization	Cytoplasm, nuclear
Applications	Western Blot : 0.5-1ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This NUBP1 antibody is available for research use only.



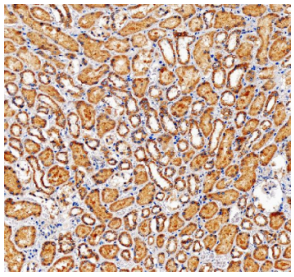
Immunofluorescent staining of FFPE human HeLa cells with NUBP1 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of 1) HeLa, 2) A549, 3) RT4, 4) U-251, 5) COLO-320, 6) HepG2, 7) U-2 OS and 8) 293T cell lysate with NUBP1 antibody. Predicted molecular weight ~35 kDa.



Flow cytometry testing of fixed and permeabilized human K562 cells with NUBP1 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= NUBP1 antibody.



IHC staining of FFPE human kidney tissue with NUBP1 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.

Description

NUBP1 antibody is an important tool for studying protein complex assembly, nucleotide binding, and cellular organization. The encoded protein, nucleotide-binding protein 1, belongs to the NUBP/MRP family of ATP-binding proteins that function in iron-sulfur cluster assembly and centrosome regulation. NUBP1 acts as an essential cytoplasmic factor that coordinates assembly of iron-sulfur proteins, which are required for enzymatic reactions in DNA replication, repair, and metabolic processes. By assisting in this pathway, NUBP1 ensures proper function of mitochondrial and nuclear enzymes critical to cell viability.

Nucleotide-binding protein 1 also plays a key role in centrosome duplication and mitotic spindle organization. Through its ATP-binding domains and interactions with structural proteins, NUBP1 regulates centrosome integrity and chromosome segregation. Disruption of NUBP1 function leads to abnormal spindle poles, defective cytokinesis, and genomic instability. These phenotypes highlight its importance in maintaining cell cycle fidelity and preventing aneuploidy.

Research has linked NUBP1 to multiple biological processes beyond iron-sulfur cluster assembly and cell division. Studies suggest that it may contribute to cytoskeletal regulation, vesicle trafficking, and developmental patterning. Given its essential functions, alterations in NUBP1 activity have been associated with disease mechanisms. Mutations in nucleotide-binding protein 1 can impair iron-sulfur protein biogenesis, leading to defects in DNA metabolism and mitochondrial function. Dysregulated expression has also been observed in certain cancers, where disruption of centrosome control contributes to tumorigenesis.

At the molecular level, NUBP1 contains Walker A and B motifs that mediate nucleotide binding and hydrolysis. These features allow it to act as a molecular switch, cycling between active and inactive conformations that regulate its interactions with partner proteins. Structural and biochemical studies indicate that NUBP1 forms complexes with its paralog NUBP2, together functioning as scaffold proteins for iron-sulfur cluster transfer. This cooperative activity highlights its conserved role in protein maturation and cellular homeostasis.

The NUBP1 antibody is widely used in western blotting, immunohistochemistry, immunofluorescence, and flow cytometry to detect protein expression and distribution in normal and diseased tissues. These applications enable scientists to assess NUBP1 function in cell cycle progression, DNA metabolism, and mitochondrial biology. For investigators examining fundamental processes in cell division, iron-sulfur cluster assembly, or cancer development, the NUBP1 antibody provides a reliable detection tool. NSJ Bioreagents offers validated antibodies designed to deliver reproducibility and accuracy in advanced molecular research.

Application Notes

Optimal dilution of the NUBP1 antibody should be determined by the researcher.

Immunogen

An E.coli-derived human recombinant protein (M1-Q311) was used as the immunogen for the NUBP1 antibody.

Storage

After reconstitution, the NUBP1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.