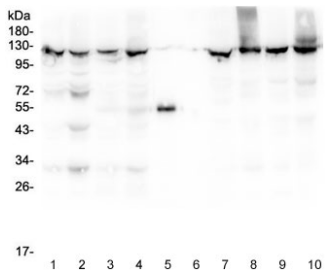
XPO1 Antibody / Exportin 1 / CRM1 [clone 5G3] (RQ4517)

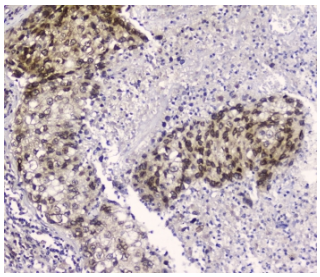
Catalog No.	Formulation	Size
RQ4517	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

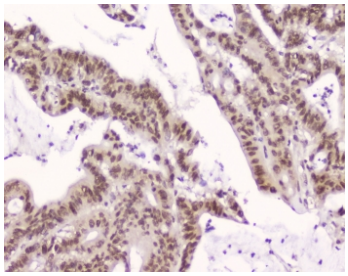
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG2b
Clone Name	5G3
Purity	Protein G affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	O14980
Localization	Nucleus, Cytoplasm
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml Flow Cytometry : 1-3ug/10^6 cells Immunofluorescence : 5ug/ml
Limitations	This XPO1 antibody is available for research use only.



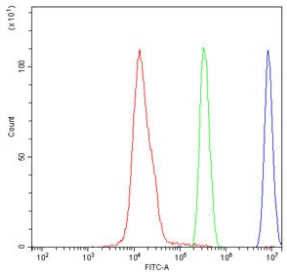
Western blot testing of 1) rat liver, 2) rat lung, 3) mouse liver, 4) mouse lung, 5) rabbit IgG, 6) molecular weight marker, 7) human HepG2, 8) human SMMC-7721, 9) human HeLa and 10) human Jurkat lysate with XPO1 antibody at 0.5ug/ml. Expected molecular weight ~123 kDa.



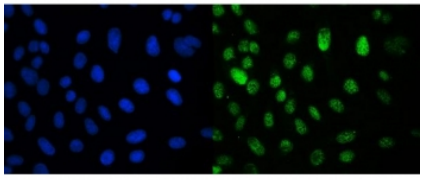
IHC testing of FFPE human lung cancer with XPO1 antibody at 2ug/ml. HIER: boil tissue sections in pH6, 10mM citrate buffer, for 10-20 min followed by cooling at RT for 20 min.



IHC testing of FFPE human intestinal cancer with XPO1 antibody at 2ug/ml. HIER: boil tissue sections in pH6, 10mM citrate buffer, for 10-20 min followed by cooling at RT for 20 min.



Flow cytometry testing of human SiHa cells with XPO1 antibody at 1ug/10^6 cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= XPO1 antibody.



Immunofluorescent staining of FFPE human U-2 OS cells with XPO1 antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.

Description

XPO1 antibody recognizes Exportin 1, also known as Chromosome region maintenance 1 (CRM1), a major nuclear export receptor encoded by the XPO1 gene on chromosome 2p15. Exportin 1 is a member of the karyopherin beta family and is responsible for mediating the nuclear export of numerous proteins and RNA species that contain leucine-rich nuclear export signals. It binds cargo molecules in the presence of Ran-GTP, forming export complexes that traverse the nuclear pore complex and deliver regulatory proteins to the cytoplasm. XPO1 is expressed broadly across tissues and shows elevated levels in cells undergoing rapid proliferation or extensive transcriptional activity. Subcellular localization studies show Exportin 1 enriched at the nuclear envelope, within the nucleus, and in cytoplasmic regions engaged in nucleocytoplasmic transport.

Exportin 1 participates in fundamental pathways that regulate transcription factor shuttling, cell cycle progression, apoptosis, and stress responses. Its cargo repertoire includes numerous signaling proteins such as p53, p21, FOXO family transcription factors, STAT proteins, NF-kB regulators, and components involved in ribosome biogenesis. By directing these molecules out of the nucleus, XPO1 helps balance transcriptional activation, cytoplasmic signaling, and controlled cellular growth. The export of RNA-protein complexes, including snRNAs and selected viral RNAs, expands XPO1 involvement into RNA processing and antiviral defense pathways.

Dysregulation of XPO1 is closely associated with disease, particularly cancer. Overexpression of Exportin 1 is common in hematologic malignancies and solid tumors, where excessive export of tumor suppressors reduces their nuclear function and contributes to oncogenesis. Various cancers, including leukemia, multiple myeloma, breast cancer, and colorectal cancer, display altered XPO1 activity that enhances cytoplasmic sequestration of growth-inhibitory factors. Mutations affecting the XPO1 gene have been identified in certain B cell malignancies and influence nuclear export dynamics. Because of its central role in oncogenic signaling, XPO1 has become a major therapeutic target, with selective nuclear export inhibitors developed to restore nuclear retention of critical regulatory proteins.

At the molecular level, Exportin 1 interacts with nuclear pore components, Ran regulatory factors, and cargo adaptor proteins. It undergoes conformational changes driven by nucleotide-bound states of Ran, enabling directional transport. Isoform variations may affect cargo selectivity or regulatory interactions, although the primary isoform dominates across tissues. Developmentally, XPO1 expression is essential for embryonic viability, as nuclear export is required for proper gene expression patterns, lineage commitment, and early cell cycle regulation.

This XPO1 antibody is suitable for detecting Exportin 1 in research addressing nuclear export pathways, cancer biology, transcriptional regulation, stress response networks, and host-virus interactions. It supports studies involving CRM1-dependent transport, tumor suppressor shuttling, nuclear pore dynamics, and mechanisms underlying nucleocytoplasmic signaling in health and disease. NSJ Bioreagents provides this antibody within its nucleus-focused and signaling-focused research portfolio.

Application Notes

Optimal dilution of the XPO1 antibody should be determined by the researcher.

Immunogen

Human Exportin 1 recombinant protein (amino acids N966-D1071) was used as the immunogen for the XPO1 antibody.

Storage

After reconstitution, the XPO1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.