abcam

ab180144

Anti-CRM1 antibody [EPR14123(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR14123(B)
Purity	Tissue culture supernatant

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

Predicted

Species	Mouse, Rat

Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/200
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information XPO1

Function	Mediates the nuclear export of cellular proteins (cargos) bearing a leucine-rich nuclear export signal (NES) and of RNAs. In the nucleus, in association with

RANBP3, binds cooperatively to the NES on its target protein and to the GTPase RAN in its active GTP-bound form (Ran-GTP). Docking of this complex to the nuclear pore complex (NPC) is mediated through binding to nucleoporins. Upon transit of a nuclear export complex into the cytoplasm, disassembling of the complex and hydrolysis of Ran-GTP to Ran-GDP (induced by RANBP1 and RANGAP1, respectively) cause release of the cargo from the export receptor. The directionality of nuclear export is thought to be conferred by an asymmetric distribution of the GTP- and GDP-bound forms of Ran between the cytoplasm and nucleus. Involved in U3 snoRNA transport from Cajal bodies to nucleoli. Binds to late precursor U3 snoRNA bearing a TMG cap. (Microbial infection) Mediates the export of unspliced or incompletely spliced RNAs out of the nucleus from different viruses including HIV-1, HTLV-1 and influenza A. Interacts with, and mediates the nuclear export of HIV-1 Rev and HTLV-1 Rex proteins. Involved in HTLV-1 Rex multimerization.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CRM1 also known as exportin 1 is a significant nuclear export protein with a molecular mass of approximately 123 kDa. It is expressed in a wide range of eukaryotic cells being an important component in transporting molecules from the nucleus to the cytoplasm. The CRM1 protein binds cargo proteins bearing a leucine-rich nuclear export signal (NES) and facilitates their passage through the nuclear pore complex. Due to its essential role in nuclear-cytoplasmic transport CRM1 serves as a targeted protein in various research and therapeutic contexts.
Biological function summary	CRM1 participates in the regulation of gene expression by controlling the export of mRNA and ribosomal subunits. It does not act alone but associates with other proteins such as Ran GTPase to form a functioning export complex. This CRM1 complex plays a pivotal role in maintaining cellular homeostasis and responding to cellular stress by regulating the localization of key signaling molecules and transcription factors.
Pathways	CRM1 integrates into critical pathways such as the Wnt signaling pathway and DNA damage response. In the Wnt signaling pathway CRM1 influences the localization and activity of beta-catenin a central protein in the pathway. In the DNA damage response CRM1 interacts with p53 a notable tumor suppressor protein. Through these pathways CRM1 ensures proper control of cell proliferation apoptosis and differentiation.
Associated diseases and disorders	CRM1 is implicated in cancer and viral infections. Dysregulation of CRM1-mediated nuclear export can lead to abnormal accumulation of oncogenic proteins in the cytoplasm which contributes to cancer pathogenesis. CRM1 overexpression is often observed in several cancers including leukemia and pancreatic cancer linking it to essential regulatory proteins like p53 and NF-kB. Additionally certain viruses exploit CRM1's export mechanism to enhance their replication making it a target for antiviral research.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

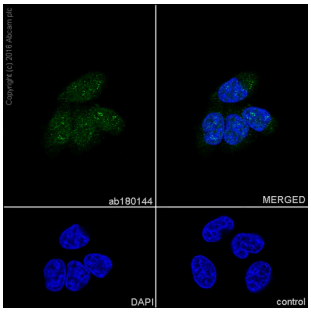
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

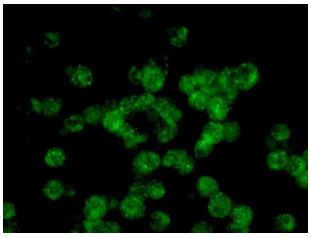
4 product images



Immunocytochemistry/ Immunofluorescence - Anti-CRM1 antibody [EPR14123(B)] (ab180144)

CRM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CRM1 antibody

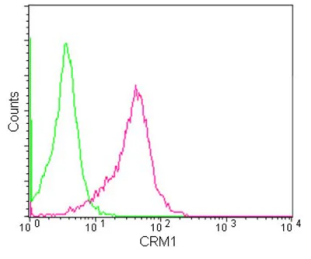
Immunocytochemistry/Immunofluorescence analysis of HeLa (Human epithelial cell line from cervix adenocarcinoma) labeling CRM1 with Purified ab180144 at 1/500 dilution. Cells were fixed with 4% PFA and permeabilized with 0.1% tritonX-100. ab150077 Goat anti rabbit IgG (Alexa Fluor® 488) at 1/1000 was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-CRM1 antibody [EPR14123(B)] (ab180144)

CRM1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CRM1 antibody

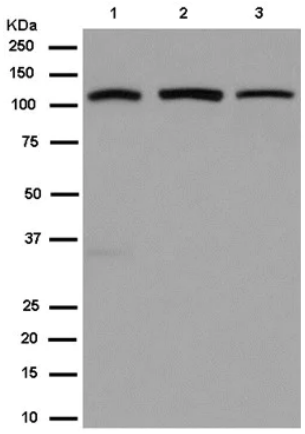
Immunofluorescent analysis of 20°C acetone fixed K562 cells labeling CRM1 with ab180144 at 1/500 dilution. Secondary antibody Goat anti rabbit IgG (Dylight 488) .



Flow Cytometry (Intracellular) - Anti-CRM1 antibody [EPR14123(B)] (ab180144)

CRM1 Flow Cytometry (Intracellular) staining using rabbit Anti-CRM1 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde fixed HeLa cells labeling CRM1 with ab180144 at 1/200. Secondary antibody Goat anti rabbit IgG (FITC) at 1/75. Isotype control Rabbit IgG.



Western blot - Anti-CRM1 antibody [EPR14123(B)] (ab180144)

CRM1 Western blot staining using rabbit Anti-CRM1 antibody

Blocking buffer and concentration: 5%NFDM/TBST
All lanes:
Western blot - Anti-CRM1 antibody [EPR14123(B)] (ab180144) at 1/2000 dilution

Lane 1:
K562 cell lysate at 20 µg

Lane 2:
HeLa cell lysate at 20 µg

Lane 3:
Jurkat cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 123 kDa

Observed band size: 110 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.