SANTA CRUZ BIOTECHNOLOGY, INC.

CRM1 (C-1): sc-74454

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Protein transport across the nucleus is a selective, multistep process involving several cytoplasmic factors. Proteins must be recognized as import substrates, dock at the nuclear pore complex and translocate across the nuclear envelope in an ATP-dependent fashion. Two cytosolic factors centrally involved in the recognition and docking process are the karyopherin α1 and karyopherin β1 subunits. p62 glycoprotein is a nucleoporin that is not only involved in the nuclear import of proteins, but also the export of nascent mRNA strands. NTF2 (nuclear transport factor 2) interacts with nucleoporin p62 as a homodimer composed of two monomers, and may be an obligate component of functional p62. CRM1 has been shown to be an export receptor for leucine-rich proteins that contain the nuclear export signal (NES).

CHROMOSOMAL LOCATION

Genetic locus: XPO1 (human) mapping to 2p15; Xpo1 (mouse) mapping to 11 A3.2.

SOURCE

CRM1 (C-1) is a mouse monoclonal antibody raised against amino acids 772-1071 of CRM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CRM1 (C-1) is available conjugated to agarose (sc-74454 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74454 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74454 PE), fluorescein (sc-74454 FITC), Alexa Fluor® 488 (sc-74454 AF488), Alexa Fluor® 546 (sc-74454 AF546), Alexa Fluor® 594 (sc-74454 AF594) or Alexa Fluor® 647 (sc-74454 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-74454 AF680) or Alexa Fluor® 790 (sc-74454 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CRM1 (C-1) is recommended for detection of CRM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CRM1 siRNA (h): sc-35116, CRM1 siRNA (m): sc-35117, CRM1 shRNA Plasmid (h): sc-35116-SH, CRM1 shRNA Plasmid (m): sc-35117-SH, CRM1 shRNA (h) Lentiviral Particles: sc-35116-V and CRM1 shRNA (m) Lentiviral Particles: sc-35117-V.

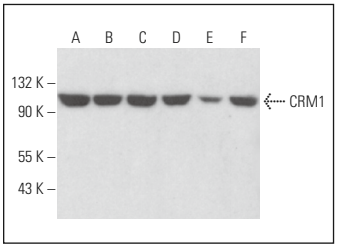
Molecular Weight of CRM1: 115 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa nuclear extract: sc-2120 or WEHI-231 whole cell lysate: sc-2213.

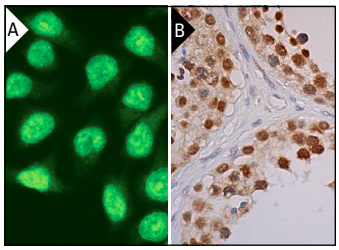
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



CRM1 (C-1): sc-74454. Western blot analysis of CRM1 expression in HeLa (**A**) and HEL 92.1.7 (**B**) nuclear extracts and Raji (**C**), WR19L (**D**), RAW 264.7 (**E**) and WEHI-231 (**F**) whole cell lysates.



CRM1 (C-1): sc-74454. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear staining of cells in seminiferous ducts (**B**).

SELECT PRODUCT CITATIONS

1. Castanotto, D., et al. 2009. CRM1 mediates nuclear-cytoplasmic shuttling of mature microRNAs. Proc. Natl. Acad. Sci. USA 106: 21655-21669.
2. Yao, M., et al. 2015. Targeting of cytosolic phospholipase $A_2\alpha$ impedes cell cycle re-entry of quiescent prostate cancer cells. Oncotarget 6: 34458-34474.
3. Jones, D.S., et al. 2017. Profiling drugs for rheumatoid arthritis that inhibit synovial fibroblast activation. Nat. Chem. Biol. 13: 38-45.
4. Miloudi, H., et al. 2018. Stat6 is a cargo of exportin 1: biological relevance in primary mediastinal B-cell lymphoma. Cell. Signal. 46: 76-82.
5. Yamane, T., et al. 2019. Hsp105α suppresses adriamycin-induced cell death via nuclear localization signal-dependent nuclear accumulation. J. Cell. Biochem. 120: 17951-17962.
5. Federation, A.J., et al. 2020. Highly parallel quantification and compartment localization of transcription factors and nuclear proteins. Cell Rep. 30: 2463-2471.e5.
7. Uddin, M.H., et al. 2021. Nuclear export inhibitor KPT-8602 synergizes with PARP inhibitors in escalating apoptosis in castration resistant cancer cells. Int. J. Mol. Sci. 22: 6676.
8. Yang, C.C., et al. 2022. CRM1-spike-mediated nuclear export of hepatitis B virus encapsidated viral RNA. Cell Rep. 38: 110472.
9. Zhong, J., et al. 2023. Hyodeoxycholic acid ameliorates nonalcoholic fatty liver disease by inhibiting RAN-mediated PPARα nucleus-cytoplasm shuttling. Nat. Commun. 14: 5451.
10. Glossop, M.S., et al. 2024. TIRR regulates mRNA export and association with P-bodies in response to DNA damage. Nucleic Acids Res. 52: 12633-12649.

RESEARCH USE

For research use only, not for use in diagnostic procedures.