SANTA CRUZ BIOTECHNOLOGY, INC.

CRM1 (N-19): sc-7826

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 alpha1 and karyopherin beta1 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).

REFERENCES

1. Buss, F., et al. 1995. Macromolecular interactions in the nucleoporin p62 complex of rat nuclear pores: binding of nucleoporin p54 to the rod domain of p62. J. Cell Biol. 128: 251-261.
2. Paschal, B.M., et al. 1995. Identification of NTF2, a cytosolic factor for nuclear import that interacts with nuclear pore complex protein p62. J. Cell Biol. 129: 925-937.
3. Dargemont, C., et al. 1995. Direct interaction of nucleoporin p62 with mRNA during its export from the nucleus. J. Cell Sci. 108: 257-263.
4. Moroianu, J., et al. 1996. The binding site of karyopherin α for karyopherin β overlaps with a nuclear localization sequence. Proc. Natl. Acad. Sci. USA 93: 6572-6576.
5. Moroianu, J., et al. 1996. Nuclear protein import: Ran-GTP dissociates the karyopherin ab heterodimer by displacing α from an overlapping binding site on β. Proc. Natl. Acad. Sci. USA 93 7059-7062.

CHROMOSOMAL LOCATION

Genetic locus: XPO1 (human) mapping to 2p15.

SOURCE

CRM1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of CRM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7826 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

CRM1 (N-19) is recommended for detection of CRM1 of human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

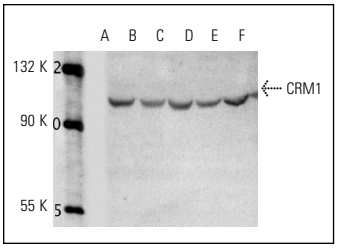
CRM1 (N-19) is also recommended for detection of CRM1 in additional species, including equine, canine, bovine, porcine and avian.

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

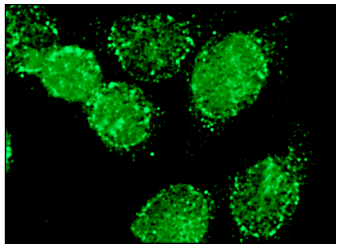
Molecular Weight of CRM1: 115 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, A-431 nuclear extract: sc-2122 or K-562 whole cell lysate: sc-2203.

DATA



CRM1 (N-19): sc-7826. Western blot analysis of CRM1 expression in HeLa (**A**), A-431 (**B**), K-562 (**C**) and Jurkat (**D**) nuclear extracts and K-562 (**E**) and IMR-32 (**F**) whole cell lysates.



CRM1 (N-19): sc-7826. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Bocci, G., et al. 2003. Thrombospondin 1, a mediator of the antiangiogenic effects of low-dose metronomic chemotherapy. Proc. Natl. Acad. Sci. USA 100: 12917-12922.
2. Manna, S.K., et al. 2005. Interleukin-8 induces nuclear transcription factor-κB through a TRAF6-dependent pathway. J. Biol. Chem. 280: 7010-7021.
3. Jain, P., et al. 2007. Identification of human T cell leukemia virus type 1 Tax amino acid signals and cellular factors involved in secretion of the viral oncoprotein. J. Biol. Chem. 282: 34581-34593.
4. David-Watine, B. 2011. Silencing nuclear pore protein Tpr elicits a senescent-like phenotype in cancer cells. PLoS ONE 6: e22423.