SANTA CRUZ BIOTECHNOLOGY, INC.

nucleoporin p62 (N-19): sc-1916

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The Power to Question

BACKGROUND

Protein transport across the nucleus is a selective, multi-step 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-α and karyopherin-β proteins. The karyopherin holoenzyme is a heterodimer of α and β subunits. Karyopherin-α functions in the recognition and targeting of substrates destined for nuclear import, while karyopherin-β serves as an adapter, tethering the karyopherin-α substrate complex to docking proteins on the nuclear envelope termed nucleoporins. p62 glycoprotein is one such nucleoporin, and is not only involved in the nuclear import of proteins, but also the export of nascent mRNA strands. An additional protein, NTF2 (nuclear transport factor 2), interacts with nucleoporin p62 as a homodimer and may be an obligate component of functional p62.

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. 1995. Previously identified protein of uncertain function is karyopherin α and together with karyopherin β docks import substrate at nuclear pore complexes. Proc. Natl. Acad. Sci. USA 92: 2008-2011.

CHROMOSOMAL LOCATION

Genetic locus: NUP62 (human) mapping to 19q13.42.

SOURCE

nucleoporin p62 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of nucleoporin p62 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-1916 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

nucleoporin p62 (N-19) is recommended for detection of nucleoporin p62 of human and mink 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).

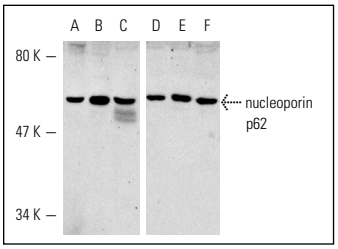
nucleoporin p62 (N-19) is also recommended for detection of nucleoporin p62 in additional species, including bovine.

Suitable for use as control antibody for nucleoporin p62 siRNA (h): sc-36107, nucleoporin p62 shRNA Plasmid (h): sc-36107-SH and nucleoporin p62 shRNA (h) Lentiviral Particles: sc-36107-V.

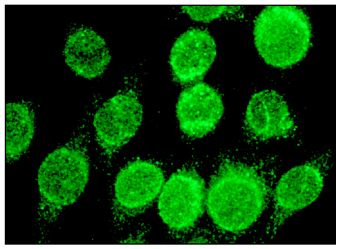
Molecular Weight of nucleoporin p62: 62 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, HeLa whole cell lysate: sc-2200 or Mv 1 Lu cell lysate: sc-3810.

DATA



nucleoporin p62 (N-19): sc-1916. Western blot analysis of nucleoporin p62 expression in Mv 1 Lu (**A**), HeLa (**B**), PC-3 (**C**), K-562 (**D**), Jurkat (**E**) and BJAB (**F**) whole cell lysates.



nucleoporin p62 (N-19): sc-1916. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear staining.

SELECT PRODUCT CITATIONS

1. Payne, C., et al. 2003. Preferentially localized dynein and perinuclear dynactin associate with nuclear pore complex proteins to mediate genomic union during mammalian fertilization. J. Cell Sci. 116: 4727-4738.
2. Guffanti, E., et al. 2008. Nuclear pore complex proteins mark the implantation window in human endometrium. J. Cell Sci. 121: 2037-2045.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.