

nucleoporin p62 (D-20): sc-6078

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 56 kDa karyopherin- α and 97 kDa 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 30 kDa homodimer composed of two 14 kDa monomers, and may be an obligate component of functional p62.

REFERENCES

1. Moroianu, J. and Blobel, G. 1995. Protein export from the nucleus requires the GTPase Ran and GTP hydrolysis. *Proc. Natl. Acad. Sci. USA* 92: 4318-4322.
2. 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.
3. Buss, F. and Stewart, M. 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.
4. Dargemont, C., et al. 1995. Direct interaction of nucleoporin p62 with mRNA during its export from the nucleus. *J. Cell Sci.* 108: 257-263.
5. Paschal, B.M. and Gerace, L. 1995. Identification of NTF2, a cytosolic factor for nuclear import that interacts with nuclear pore complex protein p62. *J. Cell Biol.* 129: 925-937.

CHROMOSOMAL LOCATION

Genetic locus: Nup62 (mouse) mapping to 7 B3.

SOURCE

nucleoporin p62 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of nucleoporin p62 of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-6078 P, (100 μ g 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.

APPLICATIONS

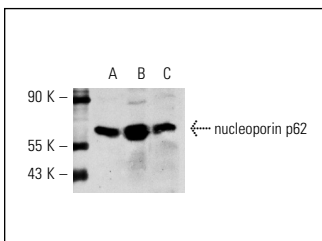
nucleoporin p62 (D-20) is recommended for detection of nucleoporin p62 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for nucleoporin p62 siRNA (m): sc-36108, nucleoporin p62 shRNA Plasmid (m): sc-36108-SH and nucleoporin p62 shRNA (m) Lentiviral Particles: sc-36108-V.

Molecular Weight of nucleoporin p62: 62 kDa.

Positive Controls: CTLL-2 cell lysate: sc-2242, WRL19L cell lysate: sc-3805 or NIH/3T3 whole cell lysate: sc-2210.

DATA



nucleoporin p62 (D-20): sc-6078. Western blot analysis of nucleoporin p62 expression in CTLL-2 (A), WRL19L (B) and NIH/3T3 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Xie, C.X., et al. 2000. Immunohistochemical study of nucleoporin p62 in the hippocampus and hypothalamus of the rat brain. *Neuroreport* 11: 2965-2967.
2. Olsson, M., et al. 2004. Limited expression of nuclear pore membrane glycoprotein 210 in cell lines and tissues suggests cell-type specific nuclear pores in metazoans. *Exp. Cell. Res.* 292: 359-370.

RESEARCH USE

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

PROTOCOLS

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



Try **nucleoporin p62 (E-4): sc-48389** or **nucleoporin p62 (C-9): sc-48373**, our highly recommended monoclonal alternatives to nucleoporin p62 (D-20).