

nucleoporin p62 (G-8): sc-166870

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 adaptor, tethering the karyopherin α substrate complex to docking proteins (termed nucleoporins) on the nuclear envelope. 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. 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.
2. Moroianu, J., et al. 1995. Protein export from the nucleus requires the GTPase ran and GTP hydrolysis. *Proc. Natl. Acad. Sci. USA* 92: 4318-4322.

CHROMOSOMAL LOCATION

Genetic locus: NUP62 (human) mapping to 19q13.33; Nup62 (mouse) mapping to 7 B4.

SOURCE

nucleoporin p62 (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-40 at the N-terminus of nucleoporin p62 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

nucleoporin p62 (G-8) is available conjugated to agarose (sc-166870 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166870 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166870 PE), fluorescein (sc-166870 FITC), Alexa Fluor® 488 (sc-166870 AF488), Alexa Fluor® 546 (sc-166870 AF546), Alexa Fluor® 594 (sc-166870 AF594) or Alexa Fluor® 647 (sc-166870 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166870 AF680) or Alexa Fluor® 790 (sc-166870 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166870 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

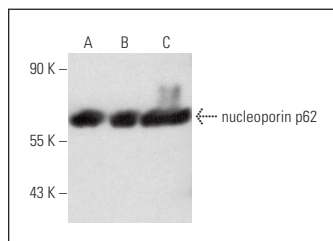
nucleoporin p62 (G-8) is recommended for detection of nucleoporin p62 of mouse, rat, human and mink origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 nucleoporin p62 siRNA (h): sc-36107, nucleoporin p62 siRNA (m): sc-36108, nucleoporin p62 shRNA Plasmid (h): sc-36107-SH, nucleoporin p62 shRNA Plasmid (m): sc-36108-SH, nucleoporin p62 shRNA (h) Lentiviral Particles: sc-36107-V and nucleoporin p62 shRNA (m) Lentiviral Particles: sc-36108-V.

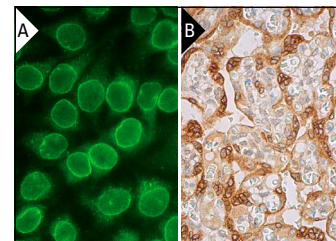
Molecular Weight of nucleoporin p62: 62 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, PC-3 cell lysate: sc-2220 or Jurkat whole cell lysate: sc-2204.

DATA



nucleoporin p62 (G-8): sc-166870. Western blot analysis of nucleoporin p62 expression in PC-3 (A), BJAB (B) and Jurkat (C) whole cell lysates.



nucleoporin p62 (G-8): sc-166870. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear envelope localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing nuclear envelope and cytoplasmic staining of trophoblastic cells (B).

SELECT PRODUCT CITATIONS

1. Hashizume, C., et al. 2013. Nucleoporin Nup62 maintains centrosome homeostasis. *Cell Cycle* 12: 3804-3816.
2. Ke, H., et al. 2019. Porcine reproductive and respiratory syndrome virus nsp1- β protein interacts with nucleoporin 62 (Nup62) to promote viral replication and immune evasion. *J. Virol.* 93: e00469-19.
3. Li, J., et al. 2020. MGAT3-mediated glycosylation of tetraspanin CD82 at asparagine 157 suppresses ovarian cancer metastasis by inhibiting the integrin signaling pathway. *Theranostics* 10: 6467-6482.
4. Singh, A., et al. 2023. Disruption in networking of KCMF1 linked ubiquitin ligase impairs autophagy in CD8⁺ memory T cells of patients with renal cell carcinoma. *Cancer Lett.* 564: 216194.

STORAGE

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