

NTF2 (C-19): sc-1850

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.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: NUTF2 (human) mapping to 16q21; Nutf2 (mouse) mapping to 8 D3.

SOURCE

NTF2 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of nuclear transport factor 2 (NTF2) of human 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-1850 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NTF2 (C-19) is recommended for detection of NTF2 p10 of mouse, rat and human 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).

NTF2 (C-19) is also recommended for detection of NTF2 p10 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NTF2 siRNA (h): sc-36105, NTF2 siRNA (m): sc-36106, NTF2 shRNA Plasmid (h): sc-36105-SH, NTF2 shRNA Plasmid (m): sc-36106-SH, NTF2 shRNA (h) Lentiviral Particles: sc-36105-V and NTF2 shRNA (m) Lentiviral Particles: sc-36106-V.

Molecular Weight of NTF2: 14 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or COLO 320DM cell lysate: sc-2226.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Pedram, A., et al. 2006. Nature of functional estrogen receptors at the plasma membrane. *Mol. Endocrinol.* 20: 1996-2009.

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.

PROTOCOLS

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



Try **NTF2 (B-7): sc-271693** or **NTF2 (G-3): sc-365008**, our highly recommended monoclonal alternatives to NTF2 (C-19).