SANTA CRUZ BIOTECHNOLOGY, INC.

NTF2 (5A3): sc-80008

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.

CHROMOSOMAL LOCATION

Genetic locus: NUTF2 (human) mapping to 16q22.1; Nutf2 (mouse) mapping to 8 D3.

SOURCE

NTF2 (5A3) is a mouse monoclonal antibody raised against full length NTF2 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

NTF2 (5A3) is recommended for detection of wild-type and mutant NTF2 proteins of mouse, rat, human and *Xenopus laevis* 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).

NTF2 (5A3) is also recommended for detection of wild-type and mutant NTF2 proteins in additional species, including monkey.

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.

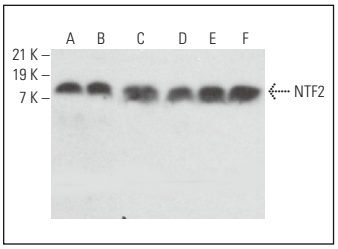
Molecular Weight of NTF2: 14 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-251-MG whole cell lysate: sc-364176 or K-562 whole cell lysate: sc-2203.

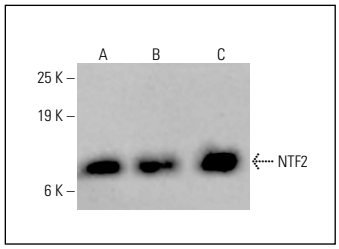
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NTF2 (5A3): sc-80008. Western blot analysis of NTF2 expression in U-251-MG (**A**), F9 (**B**), L6 (**C**), A-10 (**D**), A2058 (**E**) and IMR-32 (**F**) whole cell lysates.



NTF2 (5A3): sc-80008. Western blot analysis of NTF2 expression in HeLa (**A**), K-562 (**B**) and HCT-116 (**C**) whole cell lysates. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.

SELECT PRODUCT CITATIONS

1. Zhong, Y., et al. 2011. Importin β interacts with the endoplasmic reticulum-associated degradation machinery and promotes ubiquitination and degradation of mutant α1-antitrypsin. J. Biol. Chem. 286: 33921-33930.
2. García-Aguirre, I., et al. 2019. Enhanced nuclear protein export in premature aging and rescue of the progeria phenotype by modulation of CRM1 activity. Aging Cell 18: e13002.

RESEARCH USE

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

PROTOCOLS

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