

# Snurportin-1 (N-20): sc-55301

## BACKGROUND

Snurportin-1, also known as SNUPN, KPNBL or RNUT1 (RNA U transporter 1) is a nuclear import adaptor protein belonging to the Snurportin family. Localizing to the cytoplasm and nucleus, Snurportin-1 contains an N-terminal IBB domain and a trimethylguanosine (m3G)-cap binding domain. It specifically binds the terminal 2,2,7-m3G-cap at the 5' end of U snRNPs and functions to transport U snRNPs into the nucleus via an association with Importin  $\beta$ . The nuclear import of U snRNPs is an important step in the maturation of the spliceosome. The complex formed between Snurportin-1, U snRNP and Importin  $\beta$  is essential for nuclear import. Depending on the U snRNP (U1 or U2), Snurportin-1 may localize to Cajal bodies after nuclear import. In the nucleus, CRM1 binds to Snurportin-1 and is responsible for the recycling of Snurportin-1 back to the cytoplasm for additional rounds of U snRNP import.

## REFERENCES

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- Mouaikel, J., et al. 2003. Interaction between the small-nuclear-RNA cap hypermethylase and the spinal muscular atrophy protein, survival of motor neuron. *EMBO Rep.* 4: 616-622.
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- Mans, B.J., et al. 2004. Comparative genomics, evolution and origins of the nuclear envelope and nuclear pore complex. *Cell Cycle* 3: 1612-1637.
- Strasser, A., et al. 2004. Purification, crystallization and preliminary crystallographic data of the m3G cap-binding domain of human snRNP import factor Snurportin-1. *Acta Crystallogr. D Biol. Crystallogr.* 60: 1628-1631.
- Arnaoutov, A., et al. 2005. CRM1 is a mitotic effector of Ran-GTP in somatic cells. *Nat. Cell Biol.* 7: 626-632.
- Ospina, J.K., et al. 2005 Cross-talk between Snurportin-1 subdomains. *Mol. Biol. Cell.* 16: 4660-4671.
- Strasser, A., et al. 2005. Structural basis for m3G-cap-mediated nuclear import of spliceosomal UsnRNPs by Snurportin-1. *EMBO J.* 24: 2235-2243.

## CHROMOSOMAL LOCATION

Genetic locus: SNUPN (human) mapping to 15q24.2.

## SOURCE

Snurportin-1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Snurportin-1 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-55301 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Snurportin-1 (N-20) is recommended for detection of Snurportin-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2  $\mu$ g per 100–500  $\mu$ 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).

Snurportin-1 (N-20) is also recommended for detection of Snurportin-1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Snurportin-1 siRNA (h): sc-63048; and as shRNA Plasmid control antibody for Snurportin-1 shRNA Plasmid (h): sc-63048-SH.

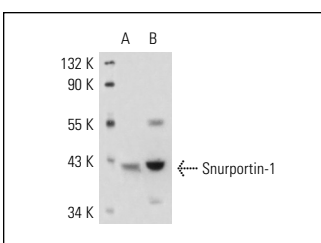
Molecular Weight of Snurportin-1: 46 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, IMR-32 cell lysate: sc-2409 or Jurkat whole cell lysate: sc-2204.

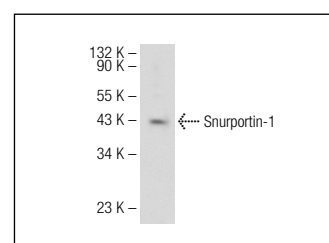
## RECOMMENDED SECONDARY REAGENTS

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.

## DATA



Snurportin-1 (N-20): sc-55301. Western blot analysis of Snurportin-1 expression in HeLa (A) and IMR-32 (B) nuclear extracts.



Snurportin-1 (N-20): sc-55301. Western blot analysis of Snurportin-1 expression in Jurkat whole cell lysate.

## 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.