

# NSF (H-300): sc-15339

## BACKGROUND

Syntaxins were originally thought to be docking proteins, but have more recently been categorized as anchoring proteins that anchor themselves to the cytoplasmic surfaces of cellular membranes. Syntaxins have been shown to bind to various proteins involved in exocytosis, including VAMPs (vesicle-associated membrane proteins), NSF (N-ethylmaleimide-sensitive factor), SNAP 25 (synaptosomal-associated protein of 25 kDa), SNAPs (soluble NSF attachment proteins) and synaptotagmin. VAMPs, also designated synaptobrevins, including VAMP-1 and VAMP-2, and synaptotagmin, a protein that may function as an inhibitor of exocytosis, are vesicular proteins. SNAPs, including  $\alpha$ - and  $\gamma$ -SNAP, are cytoplasmic proteins that bind to a membrane receptor complex composed of VAMP, SNAP 25 and syntaxin. SNAPs mediate the membrane binding of NSF, which is essential for membrane fusion reactions.

## CHROMOSOMAL LOCATION

Genetic locus: NSF (human) mapping to 17q21.31; Nsf (mouse) mapping to 11 E1.

## SOURCE

NSF (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping near the N-terminus of NSF 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.

## STORAGE

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

## APPLICATIONS

NSF (H-300) is recommended for detection of NSF of mouse, rat and 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

NSF (H-300) is also recommended for detection of NSF in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NSF siRNA (h): sc-36101, NSF siRNA (m): sc-36102, NSF shRNA Plasmid (h): sc-36101-SH, NSF shRNA Plasmid (m): sc-36102-SH, NSF shRNA (h) Lentiviral Particles: sc-36101-V and NSF shRNA (m) Lentiviral Particles: sc-36102-V.

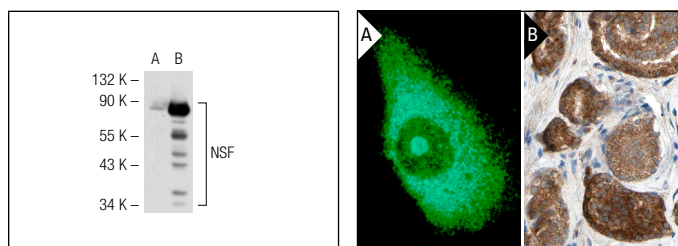
Molecular Weight of NSF: 76 kDa.

Positive Controls: mouse brain extract: sc-2253, MIA PaCa-2 cell lysate: sc-2285 or NSF (m): 293T Lysate: sc-sc-125721.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



NSF (H-300): sc-15339. Western blot analysis of NSF expression in non-transfected: sc-117752 (A) and mouse NSF transfected: sc-125721 (B) 293T whole cell lysates.

NSF (H-300): sc-15339. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate cancer tissue showing cytoplasmic staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

## SELECT PRODUCT CITATIONS

1. Matsushita, K., et al. 2003. Nitric oxide regulates exocytosis by S-nitrosylation of N-ethylmaleimide-sensitive factor. *Cell* 115: 139-150.
2. Vandenberghe, W., et al. 2005. Stargazin is an AMPA receptor auxiliary subunit. *Proc. Natl. Acad. Sci. USA* 102: 485-490.
3. Yang, Y., et al. 2007. Complex seizure disorder caused by BRUNOL4 deficiency in mice. *PLoS Genet.* 3: e124.
4. Thielmann, Y., et al. 2009. Comparative modeling of human NSF reveals a possible binding mode of GABARAP and GATE-16. *Proteins* 77: 637-646.

## RESEARCH USE

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



Try **NSF (A-3): sc-515043** or **NSF (B-9): sc-514931**, our highly recommended monoclonal alternatives to NSF (H-300).