

NSF

Cat.No. 123 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: yes ICC: 1 : 100 up to 1 : 1000 IHC: 1 : 200 IHC-P/FFPE: yes ELISA: yes (see remarks)
Immunogen	Synthetic peptide corresponding to AA 733 to 744 from rat NSF (UniProt Id: Q9QUL6)
Reactivity	Reacts with: human (P46459), rat (Q9QUL6), mouse (P46460), hamster. Other species not tested yet.
Specificity	Specific for NSF.
matching control	123-OP
Remarks	ELISA: Suitable as detector antibody for sandwich-ELISA with cat. no. 123 011 as capture antibody (protocol for sandwich-ELISA).

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

N-ethylamide sensitive fusion protein **NSF** functions together with SNAPs (soluble NSF attachment proteins) and SNAREs (SNAP receptors) in vesicular transport. NSF is a homotrimer whose polypeptide subunits are made up of three distinct domains: an amino-terminal domain (N) and two homologous ATP-binding domains (D1 and D2). NSF is an ATPase that dissociates SNARE complexes, such as the core complex composed of synaptobrevin/VAMP, syntaxin 1 and SNAP 25 under ATP hydrolysis. The ability of the D1 domain to hydrolyze ATP is required for NSF activity. The D2 domain is required for trimerization, but its ability to hydrolyze ATP is not absolutely required for NSF function.

Selected References SYSY Antibodies

Calcium-triggered acrosomal exocytosis in human spermatozoa requires the coordinated activation of Rab3A and N-ethylmaleimide-sensitive factor.

Michaut M, Tomes CN, De Blas G, Yunes R, Mayorga LS

Proceedings of the National Academy of Sciences of the United States of America (2000) 97(18): 9996-10001. **WB, ICC**

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.

Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.

Science (New York, N.Y.) (2014) 344(6187): 1023-8. **ICC, IHC; tested species: mouse, rat**

Glyoxal as an alternative fixative to formaldehyde in immunostaining and super-resolution microscopy.

Richter KN, Revelo NH, Seitz KJ, Helm MS, Sarkar D, Saleeb RS, D'Este E, Eberle J, Wagner E, Vogl C, Lazaro DF, et al.

The EMBO journal (2018) 37(1): 139-159. **ICC; tested species: mouse**

Cortical Granule Exocytosis Is Mediated by Alpha-SNAP and N-Ethylmaleimide Sensitive Factor in Mouse Oocytes.

de Paola M, Bello OD, Michaut MA

PloS one (2015) 10(8): e0135679. **WB**

The role of Snapin in neurosecretion: snapin knock-out mice exhibit impaired calcium-dependent exocytosis of large dense-core vesicles in chromaffin cells.

Tian JH, Wu ZX, Unzicker M, Lu L, Cai Q, Li C, Schirra C, Matti U, Stevens D, Deng C, Rettig J, et al.

The Journal of neuroscience : the official journal of the Society for Neuroscience (2005) 25(45): 10546-55. **WB**

Constrained intracellular survival of Mycobacterium tuberculosis in human dendritic cells.

Tailleux L, Neyrolles O, Honoré-Bouakline S, Perret E, Sanchez F, Abastado JP, Lagrange PH, Gluckman JC, Rosenzweig M, Herrmann JL

Journal of immunology (Baltimore, Md. : 1950) (2003) 170(4): 1939-48. **ICC**

Selected General References

Mechanisms of synaptic vesicle exocytosis.

Lin RC, Scheller RH

Annual review of cell and developmental biology (2000) 16: 19-49.

Neurotransmitter release - four years of SNARE complexes.

Hanson PI, Heuser JE, Jahn R

Current opinion in neurobiology (1997) 7(3): 310-5.

Structure and conformational changes in NSF and its membrane receptor complexes visualized by quick-freeze/deep-etch electron microscopy.

Hanson PI, Roth R, Morisaki H, Jahn R, Heuser JE

Cell (1997) 90(3): 523-35.

The synaptic vesicle cycle: a cascade of protein-protein interactions.

Südhof TC

Nature (1995) 375(6533): 645-53.

N-ethylmaleimide-sensitive fusion protein: a trimeric ATPase whose hydrolysis of ATP is required for membrane fusion.

Whiteheart SW, Rossmagel K, Buhrow SA, Brunner M, Jaenicke R, Rothman JE

The Journal of cell biology (1994) 126(4): 945-54.