



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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## Mouse anti Nesprin

Catalogue number: **MUB1317P**

Clone	Nsp-3
Isotype	IgG
Product Type	Primary Antibodies
Units	0.1 mg
Host	Mouse
Species reactivity	Mouse
Application	Immunohistochemistry (frozen)

### Background

Nesprin-3, is a member of the nesprin family and is a transmembrane protein of the outer nuclear membrane (ONM). Like nesprin-1 and nesprin-2, nesprin-3 also contains a COOH-terminal klarsicht/ANC-1/syne (KASH) domain and a series of spectrin repeats. In Humans, the full length nesprin-1 and nesprin-2 are giant proteins, containing both an actin-binding domain resulting in molecular masses of respectively 976 and 764 kDa. These proteins are therefore suggested to be involved in nuclear positioning. Nesprin-3, in contrast to nesprin-1 and nesprin-2, lacks the actin-binding domain and cannot bind directly to the cytoskeleton. Nesprin-3 has two isoforms, nesprin-3a and nesprin-3b, which differ in the N-terminus. The Nsp3 monoclonal antibody reacts specifically with nesprin-3a. The N-terminus of nesprin-3a, but not that of nesprin-3b interacts with the cytoskeletal crosslinker protein plectin. Plectin influences the structural organization and integrity of the cytoskeleton and is thought to assist in the mechanical strengthening of the cells. Plectin binds to nesprin-3a and to the intermediate filaments through its C-terminus, suggesting that the interaction between nesprin-3a and plectin links the nucleus to the intermediate filament system. Nesprin-3, like nesprin-1 and nesprin-2 is localized in the nuclear envelope. This localization is due to its interaction with SUN proteins, both SUN-1 and SUN-2, present in the inner nuclear membrane.

### Source

Nsp3 is a Mouse monoclonal antibody made by immunization of Balb/c mice with the GST fusion protein encoding the seventh spectrin repeat of NSP-3a.

### Product

Each vial contains 100ul 1 mg/ml purified monoclonal antibody in

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PBS containing 0.09% sodium azide.

### **Applications**

Nsp3 is useful for immunohistochemistry on frozen tissues and cell cultures fixed with methanol, or 4% paraformaldehyde combined with a permeabilization step of 15' in 0.1% Triton in PBS. The antibody is also suited for immunoblotting. Optimal antibody dilution should be determined by titration. Recommended range is 1:100 – 1:1000 for immunohistochemistry with FITC-conjugated secondary antibodies or avidin-biotinylated Horseradish peroxidase complex (ABC) as detection reagents.

### **Specificity**

Nsp3 reacts specifically with nesprin-3a.

### **Storage**

Store at 4°C, or in small aliquots at -20°C.

### **References**

1. Wilhelmsen, K., Litjens, S., Kuikman, I., Tshimbalanga N., Janssen, H., van den Bout, I., Raymond, K., and Sonnenberg, A., (2005) Nesprin-3, a novel outer nuclear membrane protein, associates with the cytoskeletal linker protein plectin. *J Cell Biol* 171(5), 799-810.
2. Ketema, M., Wilhelmsen, K., Kuikman, I., Janssen, H., Hodzic, D., and Sonnenberg, A. (2007). Requirements for the localization of nesprin-3 at the nuclear envelope and its interaction with plectin. *J Cell Sci* 120 (19), 3384-94.
3. Postel, R., Ketema, M., Kuikman, I., de Pereda J., and Sonnenberg A., (2010). Nesprin-3 augments peripheral nuclear localization of intermediate filaments in zebrafish. *J Cell Sci* 124(5), 755-64.

### **Caution**

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals. This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water. This datasheet is as accurate as reasonably achievable, but Nordic-MUbio accepts no liability for any inaccuracies or omissions in this information.