

## Nesprin 3 Antibody / SYNE3 [clone 30S39] (FY13047)

| Catalog No. | Formulation                                                                                                        | Size   |
|-------------|--------------------------------------------------------------------------------------------------------------------|--------|
| FY13047     | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA | 100 ul |

Recombinant RABBIT MONOCLONAL

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|                    |                                                                                                                     |
|--------------------|---------------------------------------------------------------------------------------------------------------------|
| Availability       | 2-3 weeks                                                                                                           |
| Species Reactivity | Human                                                                                                               |
| Format             | Liquid                                                                                                              |
| Clonality          | Recombinant Rabbit Monoclonal                                                                                       |
| Isotype            | Rabbit IgG                                                                                                          |
| Clone Name         | 30S39                                                                                                               |
| Purity             | Affinity-chromatography                                                                                             |
| Buffer             | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA. |
| UniProt            | Q6ZMZ3                                                                                                              |
| Applications       | Western Blot : 1:500-1:2000                                                                                         |
| Limitations        | This Nesprin 3 antibody is available for research use only.                                                         |

### Description

Nesprin 3 antibody detects Spectrin repeat containing nuclear envelope protein 3, encoded by the SYNE3 gene. This protein, commonly known as Nesprin 3, is a component of the linker of nucleoskeleton and cytoskeleton (LINC) complex that spans the nuclear envelope. Unlike other Nesprin family members that link directly to actin, Nesprin 3 connects to intermediate filaments through interactions with plectin. Nesprin 3 antibody provides researchers with a key reagent to study nuclear positioning, mechanotransduction, and cytoskeletal organization.

The LINC complex plays a central role in transmitting mechanical forces between the cytoskeleton and the nucleus. By tethering the nuclear envelope to intermediate filament networks, Nesprin 3 contributes to nuclear anchorage during migration, differentiation, and mitosis. Research using Nesprin 3 antibody has shown that loss of this protein disrupts nuclear shape and mechanosensing, leading to altered transcriptional responses. These findings emphasize the importance of Nesprin 3 in structural integrity and gene regulation.

Dysfunction of Nesprin proteins, including Nesprin 3, has been linked to muscular dystrophies, cardiomyopathies, and

neurological disorders. While most studies have focused on Nesprin 1 and Nesprin 2, evidence suggests that Nesprin 3 contributes to nuclear envelope stability and tissue homeostasis. Studies using Nesprin 3 antibody have associated its altered expression with cancer progression, where changes in nuclear deformability affect invasion and metastasis. These roles highlight the significance of SYNE3 in both health and disease.

Nesprin 3 antibody is widely applied in western blotting, immunofluorescence, and immunohistochemistry. Western blotting demonstrates isoform expression, immunofluorescence shows its localization at the nuclear envelope, and immunohistochemistry reveals its distribution in tissues such as muscle, epithelium, and nervous system. Functional studies have employed Nesprin 3 antibody in knockdown and rescue experiments, linking its absence to nuclear detachment and impaired motility.

By providing validated Nesprin 3 antibody reagents, NSJ Bioreagents supports research into nuclear envelope biology, cytoskeletal dynamics, and disease. Detection of Spectrin repeat containing nuclear envelope protein 3 ensures that researchers can explore how nuclear anchorage and mechanotransduction contribute to cellular function and pathology.

## Application Notes

Optimal dilution of the Nesprin 3 antibody should be determined by the researcher.

## Immunogen

A synthesized peptide derived from human Nesprin3 was used as the immunogen for the Nesprin 3 antibody.

## Storage

Store the Nesprin 3 antibody at -20oC.