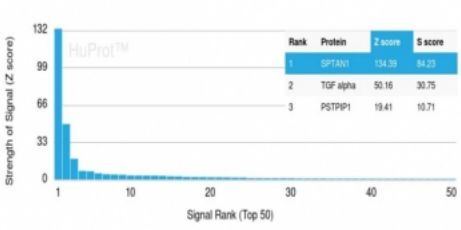
# Alpha II Spectrin Antibody / Fodrin / SPTAN1 [clone SPTAN1/3374] (V5309)

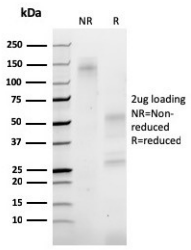
| Catalog No. | Formulation | Size |
|---|---|---|
| V5309-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 100 ug |
| V5309-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 20 ug |
| V5309SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Mouse |
| **Clonality** | Monoclonal (mouse origin) |
| **Isotype** | Mouse IgG2b, lambda |
| **Clone Name** | SPTAN1/3374 |
| **Purity** | Protein A/G affinity |
| **UniProt** | Q13813 |
| **Localization** | Cytoplasm |
| **Applications** | ELISA (Order BSA-free Format For Coating) : |
| **Limitations** | This Alpha II Spectrin/Fodrin antibody is available for research use only. |




Analysis of a HuProt(TM) microarray containing more than 19,000 full-length human proteins using Alpha II Spectrin/Fodrin antibody (clone SPTAN1/3374). Z- and S- Score: The Z-score represents the strength of a signal that a monoclonal antibody (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a mAb to its intended target. A mAb is considered to specific to its intended target, if the mAb has an S-score of at least 2.5. For example, if a mAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that mAb to protein X is equal to 29.




SDS-PAGE analysis of purified, BSA-free Alpha II Spectrin antibody (clone SPTAN1/3374) as confirmation of integrity and purity.

## Description

Alpha II Spectrin antibody recognizes Spectrin alpha chain, non-erythrocytic 1, commonly referred to in the literature as Fodrin and SPTAN1, a large cytoskeletal scaffolding protein encoded by the SPTAN1 gene. Fodrin is a widely expressed actin-binding protein that localizes to the cytoplasm and the inner surface of the plasma membrane, where it forms heterodimers with beta spectrin to generate a supportive submembranous cytoskeletal network. This Alpha II Spectrin Antibody is developed to detect endogenous fodrin in research applications investigating cytoskeletal stability and structural signaling mechanisms.

Fodrin plays a central role in maintaining cell shape, mechanical resilience, and membrane protein organization. Through assembly into tetrameric spectrin complexes, Spectrin alpha chain, non-erythrocytic 1 links transmembrane proteins to the actin cytoskeleton, thereby regulating membrane architecture and intracellular signaling. The protein is especially abundant in neurons, where fodrin contributes to axonal stability, dendritic integrity, and synaptic organization. It is also present in epithelial and other non-erythroid tissues, reflecting its broad structural importance across somatic cell types.

Fodrin is particularly well known for its regulated proteolytic cleavage during apoptosis and cellular injury. Calpain-mediated and caspase-mediated cleavage of SPTAN1 generates characteristic spectrin breakdown products that are widely studied in neurodegenerative disease research, ischemic injury models, and traumatic brain injury investigations. These cleavage fragments serve as established markers of cytoskeletal disruption and neuronal damage, making fodrin a key protein in studies of apoptosis and cell stress responses.

The SPTAN1 gene is located on chromosome 9q33.2 and encodes a multidomain protein composed of repetitive spectrin motifs that mediate dimerization and actin binding. Mutations in SPTAN1 have been associated with neurodevelopmental disorders, including epileptic encephalopathy and related neurological syndromes, underscoring the importance of fodrin in neuronal maturation and stability. Altered spectrin organization has also been implicated in tumor progression and changes in cellular motility.

By targeting fodrin, this antibody supports studies of cytoskeletal architecture, neuronal injury, apoptosis-related proteolysis, and spectrin-dependent membrane organization. Clone SPTAN1/3374 recognizes Spectrin alpha chain, non-erythrocytic 1 and is suitable for detecting fodrin expression in diverse research models focused on structural integrity and cell signaling.

## Application Notes

Optimal dilution of the Alpha II Spectrin/Fodrin antibody should be determined by the researcher.

## Immunogen

A recombinant fragment of human protein (within amino acids 2351-2475) was used as the immunogen for the Alpha II Spectrin/Fodrin antibody.

## Storage

Aliquot the Alpha II Spectrin/Fodrin antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.