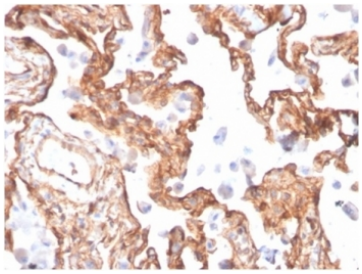
SPTAN1 Antibody Protein Microarray Validated / Alpha II Spectrin [clone SPTAN1/3505] (V9584)

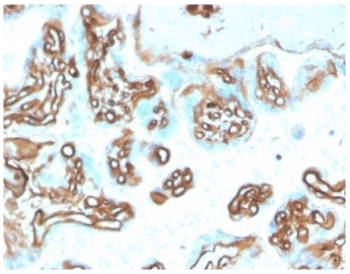
Catalog No.	Formulation	Size
V9584-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9584-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9584SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

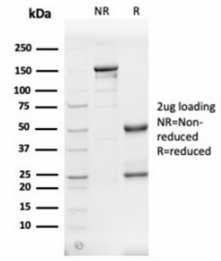
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	SPTAN1/3505
Purity	Protein A/G affinity
UniProt	Q13813
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This SPTAN1 antibody is available for research use only.



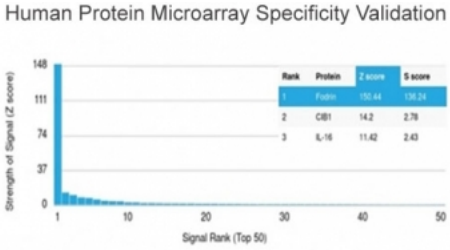
Immunohistochemistry of SPTAN1 antibody in human lung tissue. FFPE human lung shows cytoplasmic HRP-DAB brown staining along alveolar septa and within pneumocytes, consistent with Spectrin alpha chain, non-erythrocytic 1 localization along the submembranous cytoskeleton. Clone SPTAN1/3505 was used for detection and is Protein Microarray Validated. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



Immunohistochemistry of SPTAN1 antibody in human placental tissue. FFPE placenta shows cytoplasmic HRP-DAB brown staining within trophoblastic cells outlining chorionic villi, consistent with Spectrin alpha chain, non-erythrocytic 1 localization along the submembranous cytoskeleton. Clone SPTAN1/3505 was used for detection and is Protein Microarray Validated. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



SDS-PAGE analysis of purified, BSA-free SPTAN1 antibody (clone SPTAN1/3505) as confirmation of integrity and purity.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using SPTAN1 antibody (clone SPTAN1/3505). These results demonstrate the foremost specificity of the SPTAN1/3505 mAb. Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) 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 the targets on the 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-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.

Description

SPTAN1 antibody recognizes Spectrin alpha chain, non-erythrocytic 1, also known as Alpha II spectrin antibody and NEAS antibody, a large cytoskeletal scaffolding protein encoded by the SPTAN1 gene. Spectrin alpha chain, non-erythrocytic 1 is widely expressed in non-erythroid tissues and localizes primarily to the cytoplasm and inner surface of the plasma membrane, where it forms heterodimers with beta spectrin to generate a supportive submembranous cytoskeletal network. SPTAN1 Antibody Protein Microarray Validated is developed to detect endogenous SPTAN1 in research applications focused on cytoskeletal organization and membrane stability.

SPTAN1 plays a critical role in maintaining cell shape, mechanical integrity, and membrane protein positioning. Through assembly into tetrameric spectrin complexes, Alpha II spectrin links transmembrane proteins to the actin cytoskeleton, regulating membrane architecture and intracellular signaling. The protein is particularly abundant in neurons, where it contributes to axonal stability, synaptic organization, and dendritic structure. It is also present in epithelial and other somatic cell types, reflecting its essential function in non-erythroid cellular architecture.

Alpha II spectrin participates in multiple signaling pathways through interactions with ion channels, adhesion molecules, and regulatory proteins. During apoptosis and cellular injury, SPTAN1 undergoes proteolytic cleavage by calpains and caspases, generating characteristic spectrin breakdown products widely studied as markers of cytoskeletal disruption. These fragments are frequently evaluated in neurodegenerative disease research and models of traumatic brain injury, where spectrin integrity correlates with cellular viability and structural stability.

The SPTAN1 gene is located on chromosome 9q33.2 and encodes a multidomain protein composed of spectrin repeats that mediate dimerization and actin binding. Mutations in SPTAN1 have been associated with neurodevelopmental disorders, including epileptic encephalopathy and other neurological syndromes, underscoring its importance in neuronal development and maintenance. Alterations in spectrin organization have also been linked to changes in cell motility and

tumor progression.

Clone SPTAN1/3505 is a mouse monoclonal antibody evaluated by protein microarray screening to support specificity assessment across a broad panel of recombinant proteins. By targeting Spectrin alpha chain, non-erythrocytic 1, SPTAN1 Antibody Protein Microarray Validated facilitates studies of cytoskeletal architecture, neuronal injury, apoptosis-related proteolysis, and spectrin-mediated signaling pathways.

Application Notes

Optimal dilution of the SPTAN1 antibody should be determined by the researcher.

Immunogen

A portion of amino acids 2351-2475 was used as the immunogen for the SPTAN1 antibody.

Storage

Aliquot the SPTAN1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.