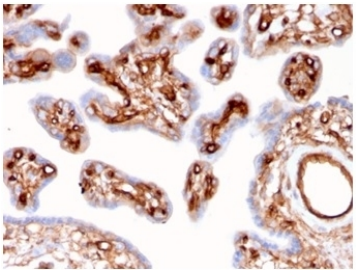
Alpha II Spectrin Antibody Microarray Validated / SPTAN1 [clone SPTAN1/3507] (V9595)

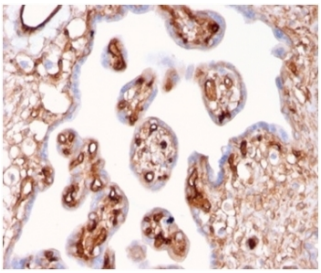
Catalog No.	Formulation	Size
V9595-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9595-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9595SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

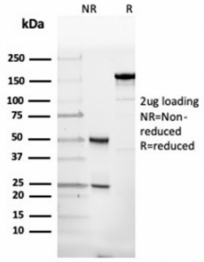
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG
Clone Name	SPTAN1/3507
Purity	Protein A/G affinity
UniProt	Q13813
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This Alpha II Spectrin antibody is available for research use only.



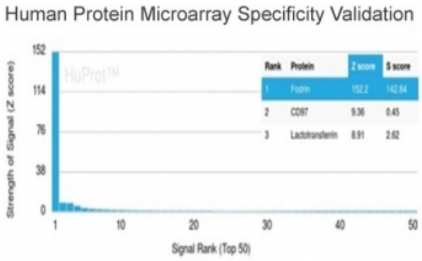
Immunohistochemistry of Alpha II Spectrin antibody in human placental tissue. FFPE placenta shows cytoplasmic HRP-DAB brown staining within trophoblastic cells outlining chorionic villi, consistent with Spectrin alpha chain, non-erythrocytic 1 localization along the submembranous cytoskeleton. Clone SPTAN1/3507 was used for detection and is 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.



IHC staining of FFPE human placental tissue with Alpha II Spectrin antibody (clone SPTAN1/3507). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



SDS-PAGE analysis of purified, BSA-free Alpha II Spectrin antibody (clone SPTAN1/3507) as confirmation of integrity and purity.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using Alpha II Spectrin antibody (clone SPTAN1/3507). These results demonstrate the foremost specificity of the SPTAN1/3507 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

Alpha II Spectrin antibody recognizes Spectrin alpha chain, non-erythrocytic 1, also referred to as SPTAN1 antibody and Alpha fodrin 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 create a supportive submembranous cytoskeletal network. Alpha II Spectrin Antibody Microarray Validated is developed to detect endogenous SPTAN1 in research applications focused on cytoskeletal organization and membrane integrity.

Alpha II spectrin plays a central role in maintaining cell shape, mechanical stability, and membrane protein distribution. Through assembly into tetrameric spectrin complexes, SPTAN1 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 fundamental role in non-erythroid cellular architecture.

SPTAN1 participates in multiple signaling pathways through interactions with ion channels, adhesion molecules, and regulatory proteins. During apoptosis and cellular injury, Alpha II spectrin undergoes proteolytic cleavage by calpains and caspases, generating characteristic spectrin breakdown products widely studied as markers of cytoskeletal disruption. These cleavage fragments are frequently evaluated in neurodegenerative disease research and traumatic injury models, 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 related neurological syndromes, underscoring its importance in neuronal development and maintenance. Altered spectrin organization has also been linked to changes in cell motility and

tumor progression.

Clone SPTAN1/3507 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, Alpha II Spectrin Antibody Microarray Validated facilitates studies of cytoskeletal architecture, neuronal injury, apoptosis-related proteolysis, and spectrin-mediated signaling pathways.

Application Notes

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

Immunogen

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

Storage

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