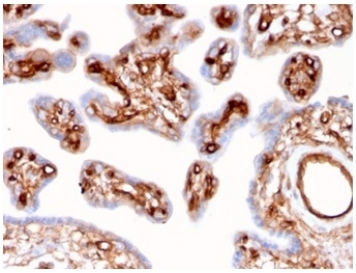
Alpha II Spectrin Antibody / Membrane Cytoskeleton Marker [clone SPTAN1/3507] (V9595)

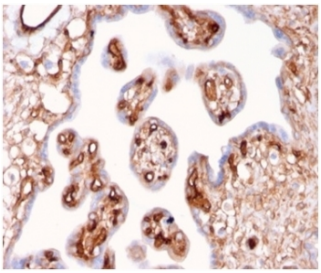
Catalog No.	Formulation	Size
V9595-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9595-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9595SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

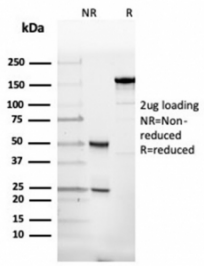
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG
Clone Name	SPTAN1/3507
Purity	Protein A/G affinity
UniProt	Q13813
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This Alpha II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



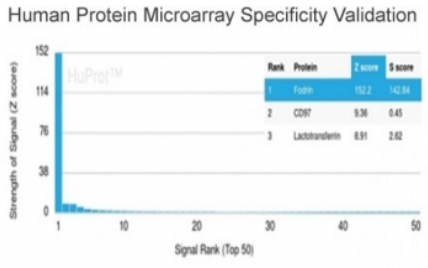
Alpha II Spectrin Antibody Human Placental Tissue IHC. Immunohistochemistry of FFPE human placental tissue using Alpha II Spectrin Antibody / Membrane Cytoskeleton Marker, clone SPTAN1/3507, shows cytoplasmic HRP-DAB brown staining within trophoblastic cells outlining chorionic villi, consistent with alpha II spectrin/SPTAN1 localization along the submembranous cytoskeleton. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. This Microarray Validated Alpha II Spectrin Antibody demonstrates detection of the membrane cytoskeleton marker in human placental tissue.



Alpha II Spectrin Antibody Human Placenta IHC. Immunohistochemistry of FFPE human placental tissue using Alpha II Spectrin Antibody / Membrane Cytoskeleton Marker, clone SPTAN1/3507, shows HRP-DAB brown staining in trophoblastic cells of the chorionic villi, consistent with alpha II spectrin localization along the submembranous cytoskeleton. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9, for 20 min followed by cooling prior to staining. This Alpha II Spectrin Antibody demonstrates detection of the membrane cytoskeleton marker in human placental tissue.



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



Alpha II Spectrin Antibody Protein Microarray Specificity Validation. Protein microarray analysis of Alpha II Spectrin Antibody / Membrane Cytoskeleton Marker, clone SPTAN1/3507, was performed using a HuProt(TM) microarray containing more than 19,000 full-length human proteins. The Z-score represents antibody signal strength in standard deviations above the mean signal across the array. The S-score represents the difference between the Z-scores of the intended target and the next highest-ranking signal, providing a measure of relative target specificity. The results demonstrate strong and highly selective recognition of alpha II spectrin/SPTAN1 by clone SPTAN1/3507.

Description

Alpha II Spectrin Antibody / Membrane Cytoskeleton Marker recognizes alpha II spectrin, a large structural protein encoded by the SPTAN1 gene. Alpha II spectrin, also known as alpha fodrin or spectrin alpha chain, non-erythrocytic 1, is a major component of the spectrin-based membrane cytoskeleton in non-erythroid cells. It associates with beta spectrins and actin to form a flexible network beneath the plasma membrane that contributes to cell shape, mechanical stability and the organization of membrane-associated proteins.

Alpha II spectrin is broadly expressed across tissues and has structural functions in epithelial, neuronal and other cell types. Spectrin complexes link the plasma membrane to the actin cytoskeleton while providing a scaffold for ion channels, receptors, adhesion molecules and signaling proteins. Through these interactions, alpha II spectrin helps maintain membrane architecture and specialized cellular domains. These properties make it a useful membrane cytoskeleton marker for studies of cell structure, membrane organization and cytoskeletal dynamics.

The SPTAN1 protein has particularly important functions in the nervous system, where spectrin-based networks contribute to axonal stability, neuronal membrane organization and the maintenance of specialized membrane domains. Pathogenic variants in SPTAN1 have been associated with neurodevelopmental and neurological disorders, including developmental and epileptic encephalopathies. Alpha II spectrin is therefore relevant to studies of both fundamental neuronal structure and mechanisms underlying neurological disease.

Alpha II spectrin is also a substrate for calpains and caspases activated during cellular injury and apoptosis. Proteolytic cleavage can generate characteristic spectrin breakdown products that are widely investigated in studies of cytoskeletal damage, neuronal injury, apoptosis and neurodegeneration. This relationship between structural maintenance and regulated proteolysis extends the research relevance of alpha II spectrin beyond its role as a membrane-associated scaffold.

Clone SPTAN1/3507 is a mouse monoclonal antibody directed against human alpha II spectrin/SPTAN1 and is Protein Microarray Validated using a HuProt(TM) array containing more than 19,000 full-length human proteins. In HuProt analysis, the Z-score represents antibody signal strength in standard deviations above the mean signal across the array, while the S-score represents the difference between the intended target and the next highest-ranking signal, providing a measure of relative target specificity. An Alpha II Spectrin Antibody can support research into membrane cytoskeleton organization, spectrin function, cellular architecture and neuronal structural biology.

Alpha fodrin is encoded by SPTAN1 and forms a major component of the non-erythroid spectrin cytoskeleton; additional reagents targeting this protein are available on the SPTAN1 Antibody page.

Application Notes

Optimal dilution of the Alpha II Spectrin Antibody / Membrane Cytoskeleton Marker 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.

Alternate Names

Alpha II spectrin antibody, SPTAN1 antibody, Spectrin alpha chain non-erythrocytic 1 antibody, Alpha fodrin antibody, NEAS antibody

Copyright © NSJ Bioreagents. All rights reserved.