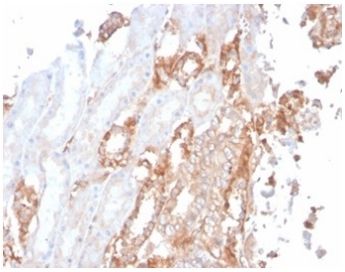
Alpha Fodrin Antibody / Non-Erythroid Spectrin Marker [clone SPTAN1/3506] (V9594)

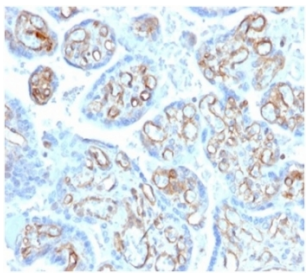
Catalog No.	Formulation	Size
V9594-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9594-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9594SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

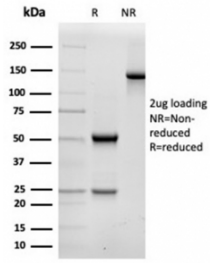
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	SPTAN1/3506
Purity	Protein A/G affinity
UniProt	Q13813
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This Alpha Fodrin Antibody / Non-Erythroid Spectrin Marker is available for research use only.



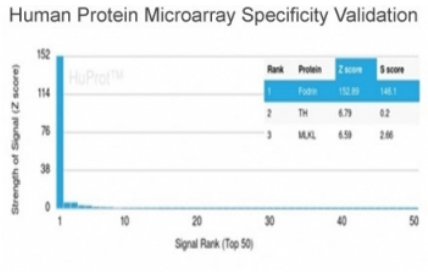
Alpha Fodrin Antibody Human Renal Cell Carcinoma IHC. Immunohistochemistry of FFPE human renal cell carcinoma tissue using Alpha Fodrin Antibody / Non-Erythroid Spectrin Marker, clone SPTAN1/3506, shows cytoplasmic HRP-DAB brown staining within tumor epithelial cells, consistent with SPTAN1 localization 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 Specificity Validated Alpha Fodrin Antibody demonstrates detection of the non-erythroid spectrin marker in human renal cell carcinoma tissue.



Alpha Fodrin Antibody Human Placenta IHC. Immunohistochemistry of FFPE human placental tissue using Alpha Fodrin Antibody / Non-Erythroid Spectrin Marker, clone SPTAN1/3506, shows prominent HRP-DAB brown staining outlining trophoblastic cells of the chorionic villi, consistent with the submembranous localization of alpha fodrin/SPTAN1. 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 Fodrin Antibody demonstrates detection of the non-erythroid spectrin marker in human placental tissue.



SDS-PAGE analysis of purified, BSA-free Alpha Fodrin antibody (clone SPTAN1/3506) as confirmation of integrity and purity.



Alpha Fodrin Antibody Protein Microarray Specificity Validation. Protein microarray analysis of Alpha Fodrin Antibody / Non-Erythroid Spectrin Marker, clone SPTAN1/3506, 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 fodrin/SPTAN1 by clone SPTAN1/3506.

Description

Alpha Fodrin Antibody / Non-Erythroid Spectrin Marker recognizes alpha fodrin, a large cytoskeletal scaffolding protein encoded by the SPTAN1 gene. Alpha fodrin is also widely known as alpha II spectrin or spectrin alpha chain, non-erythrocytic 1. It belongs to the spectrin family of proteins that form a flexible structural network beneath the plasma membrane and help connect membrane proteins to the actin cytoskeleton. Through these interactions, alpha fodrin contributes to cell shape, membrane stability and the spatial organization of proteins at the cell surface.

Unlike erythroid alpha spectrin, alpha fodrin is broadly distributed in non-erythroid tissues. It associates with beta spectrin subunits to form heteromeric spectrin complexes that interact with actin and numerous membrane-associated proteins. These complexes provide mechanical support while helping organize ion channels, receptors, adhesion proteins and signaling molecules. The widespread expression and structural role of alpha fodrin make it a useful non-erythroid spectrin marker for investigating cytoskeletal architecture in a variety of cell and tissue types.

Alpha fodrin has particularly important functions in the nervous system. Spectrin-based cytoskeletal networks contribute to neuronal membrane organization, axonal stability and the maintenance of specialized membrane domains. Alterations in SPTAN1 function are associated with neurological and neurodevelopmental disorders, including developmental and epileptic encephalopathies. Alpha fodrin is therefore studied in areas ranging from basic neuronal cell biology to mechanisms underlying neurological disease.

Alpha fodrin is also an important substrate for proteolytic enzymes activated during apoptosis and cellular injury. Cleavage by calpains and caspases produces characteristic spectrin breakdown products that have been studied as indicators of cytoskeletal damage, apoptosis and neuronal injury. This proteolytic processing has made alpha fodrin particularly relevant to research involving neurodegeneration, traumatic injury, cell death and cellular stress.

Clone SPTAN1/3506 is a mouse monoclonal antibody directed against human alpha fodrin/SPTAN1. Its recognition of

this broadly expressed structural protein supports investigation of the non-erythroid spectrin cytoskeleton and associated cellular processes. An Alpha Fodrin Antibody can be used to investigate spectrin organization, membrane-cytoskeleton interactions, apoptosis-associated proteolysis and the structural biology of neuronal and non-neuronal cells.

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 Fodrin Antibody / Non-Erythroid Spectrin Marker should be determined by the researcher.

Immunogen

A portion of amino acids2351-2475 was used as the immunogen for the Alpha Fodrin antibody.

Storage

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

Alternate Names

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

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