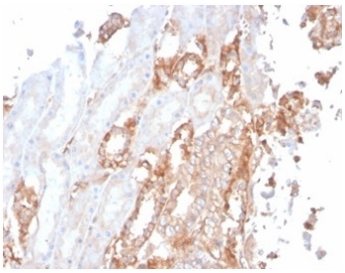
Alpha Fodrin Antibody / Alpha II Spectrin [clone SPTAN1/3506] (V9594)

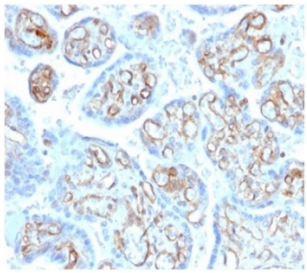
Catalog No.	Formulation	Size
V9594-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9594-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9594SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

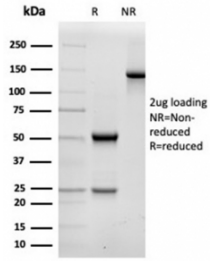
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	SPTAN1/3506
Purity	Protein A/G affinity
UniProt	Q13813
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This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



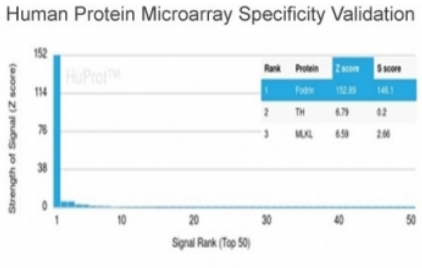
Immunohistochemistry of Alpha Fodrin antibody in human renal cell carcinoma tissue. FFPE renal cell carcinoma shows cytoplasmic HRP-DAB brown staining within tumor epithelial cells, consistent with Spectrin alpha chain, non-erythrocytic 1 localization along the submembranous cytoskeleton. Clone SPTAN1/3506 was used for detection and is Microarray Specificity 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 Fodrin antibody (clone SPTAN1/3506). 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 Fodrin antibody (clone SPTAN1/3506) as confirmation of integrity and purity.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using Alpha Fodrin antibody (clone SPTAN1/3506). These results demonstrate the foremost specificity of the SPTAN1/3506 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 Fodrin antibody recognizes Spectrin alpha chain, non-erythrocytic 1, also known as SPTAN1 antibody and Alpha II spectrin antibody, a large cytoskeletal scaffolding protein encoded by the SPTAN1 gene. Alpha fodrin 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. Alpha Fodrin is developed to detect endogenous SPTAN1 in research applications focused on cytoskeletal organization and membrane stability.

Alpha fodrin plays a central role in maintaining cell shape, mechanical resilience, 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 essential function 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 fodrin undergoes proteolytic cleavage by calpains and caspases, generating characteristic spectrin breakdown products that are widely studied as indicators of cytoskeletal disruption. These cleavage fragments are frequently evaluated in models of neurodegenerative disease and traumatic 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 SPTAN1/3506 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 Fodrin Antibody Microarray Specificity Validated facilitates studies of cytoskeletal architecture, neuronal injury, apoptosis-related proteolysis, and spectrin-mediated signaling pathways.

Application Notes

Optimal dilution of the Alpha Fodrin antibody 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.