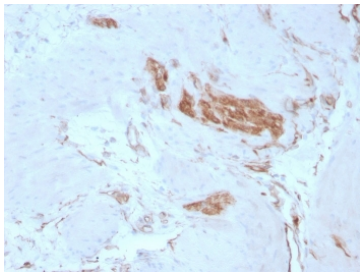
SPTAN1 Antibody for IHC / Alpha II Spectrin IHC Antibody [clone SPTAN1/3351] (V8095)

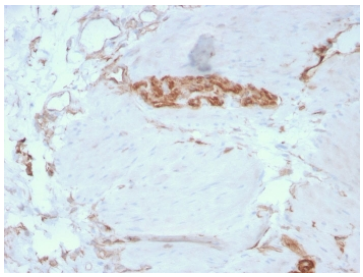
Catalog No.	Formulation	Size
V8095-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8095-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8095SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

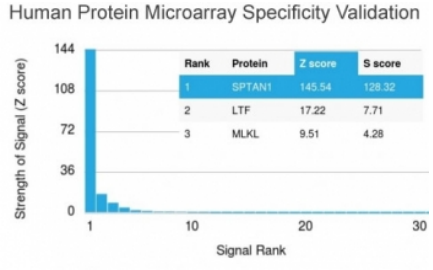
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	SPTAN1/3351
Purity	Protein G affinity chromatography
UniProt	Q13813
Localization	Cytoplasmic
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This SPTAN1 antibody is available for research use only.



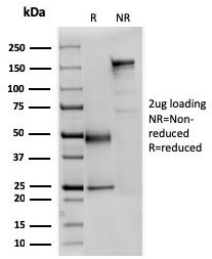
SPTAN1 Antibody for IHC staining of FFPE human colon tissue. HRP-DAB brown cytoplasmic staining is observed in epithelial and stromal cells, consistent with the submembranous cytoskeletal localization of Spectrin alpha chain, non-erythrocytic 1 (Alpha II Spectrin / SPTAN1). The rabbit monoclonal antibody clone SPTAN1/3351 was used for detection. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Immunohistochemistry of SPTAN1 antibody in human colon tissue. FFPE human colon shows cytoplasmic HRP-DAB brown staining in epithelial and stromal cells, consistent with Spectrin alpha chain, non-erythrocytic 1 localization along the submembranous cytoskeleton. Clone SPTAN1/3351 was used for detection. 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.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using SPTAN1 antibody (clone SPTAN1/3351). These results demonstrate the foremost specificity of the SPTAN1/3351 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.



SDS-PAGE analysis of purified, BSA-free SPTAN1 antibody as confirmation of integrity and purity.

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. This protein 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 network. SPTAN1 Antibody for IHC enables evaluation of SPTAN1 expression patterns in formalin-fixed, paraffin-embedded tissues.

Spectrin alpha chain, non-erythrocytic 1 plays a critical role in maintaining cell shape, membrane stability, and mechanical resilience. Through assembly into tetrameric spectrin complexes, SPTAN1 links membrane proteins to the actin cytoskeleton, regulating membrane organization and intracellular signaling. The protein is highly expressed in neurons, where it contributes to axonal integrity, synaptic structure, and cytoskeletal dynamics, but it is also present in epithelial and other somatic cell types, reflecting its fundamental role in cellular architecture.

SPTAN1 participates in 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 frequently studied as indicators of cytoskeletal disruption. These cleavage events are particularly relevant in neurodegenerative disease research and models of traumatic injury.

The SPTAN1 gene is located on chromosome 9q33.2 and encodes a multidomain protein containing 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 maturation and stability. Alterations in spectrin organization have also been linked to changes in cell motility and tumor progression.

Clone SPTAN1/3351 is a monoclonal antibody that targets SPTAN1 and is suitable for detecting SPTAN1 expression in

tissue-based research applications. By enabling visualization of cytoplasmic spectrin distribution, SPTAN1 Antibody for IHC supports studies of cytoskeletal architecture, neuronal integrity, and spectrin-associated signaling in paraffin-embedded specimens.

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 SPTAN1 antibody should be determined by the researcher.

Immunogen

A recombinant human partial protein (amino acids 2351-2475) was used as the immunogen for this SPTAN1 antibody.

Storage

Store the SPTAN1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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