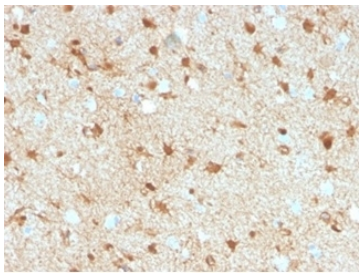
S100 beta Antibody / S100B [clone S100B/4149] (V9572)

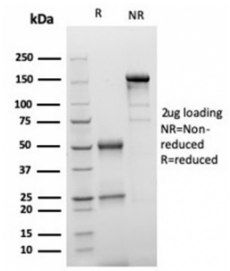
Catalog No.	Formulation	Size
V9572-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9572-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9572SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

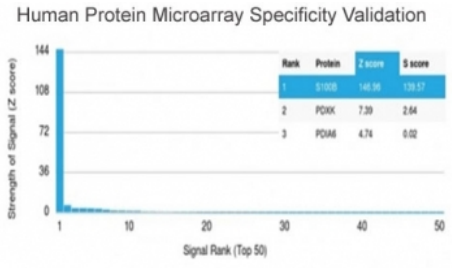
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	S100B/4149
Purity	Protein A/G affinity
UniProt	P04271
Localization	Cytoplasm, Nucleus
Applications	Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This S100 beta/S100B antibody is available for research use only.



Immunohistochemistry analysis of S100 beta / S100B antibody (clone S100B/4149) in human brain tissue. FFPE human brain demonstrates diffuse cytoplasmic and nuclear HRP-DAB brown staining in astrocyte-like cells distributed throughout the parenchyma, consistent with S100B expression. Staining highlights cells with stellate morphology and branching processes characteristic of astroglial cells, while neuronal cell bodies show comparatively weaker signal. Background staining is minimal under the conditions tested. Nuclei are counterstained blue. Heat induced epitope retrieval was performed by boiling tissue sections in 10 mM Tris with 1 mM EDTA, pH 9.0, for 20 minutes followed by cooling prior to immunostaining.



SDS-PAGE analysis of purified, BSA-free S100 beta/S100B antibody (clone S100B/4149) as confirmation of integrity and purity.



Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using S100 beta/S100B antibody (clone S100B/4149). These results demonstrate the foremost specificity of the S100B/4149 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

S100 beta antibody recognizes S100 calcium-binding protein B, a small EF-hand calcium-binding protein encoded by the human S100B gene located on chromosome 21q22.3. S100 beta, commonly referred to as S100B, is a member of the S100 family of calcium sensor proteins that function as regulators of intracellular signaling and cytoskeletal dynamics. S100 beta antibody targets a protein predominantly localized to the cytoplasm and nucleus of astrocytes in the central nervous system, where it plays important roles in calcium-dependent signal transduction and glial cell physiology.

S100 calcium-binding protein B forms homodimers and undergoes conformational changes upon binding calcium ions, enabling interaction with multiple target proteins involved in cytoskeletal organization, enzyme modulation, and transcriptional regulation. In astrocytes, S100 beta contributes to regulation of cellular morphology, proliferation, and response to stress. It is also expressed in Schwann cells, adipocytes, chondrocytes, and certain melanocytic cells, reflecting broader roles beyond the central nervous system.

In neuropathology research, S100 beta is widely used as a marker of astrocyte distribution and activation. Reactive astrocytosis following injury, ischemia, or neurodegeneration is frequently associated with increased S100B expression. In oncology, S100 beta is expressed in melanocytes and melanoma cells and is often evaluated in studies of melanocytic tumors. Because of its consistent enrichment in glial and melanocytic lineages, S100 beta antibody is commonly used to assess cell identity and tissue composition in brain and melanoma research contexts.

S100 beta antibody is suitable for detecting S100 calcium-binding protein B expression in studies of neurobiology, glial activation, melanoma biology, and central nervous system pathology. Clone S100B/4149 is designed to recognize S100B in research applications, supporting investigation of calcium-regulated signaling pathways and lineage-specific marker analysis.

Application Notes

Optimal dilution of the S100 beta/S100B antibody should be determined by the researcher.

Immunogen

A portion of amino acids 3-92 was used as the immunogen for the S100 beta/S100B antibody.

Storage

Aliquot the S100 beta/S100B antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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