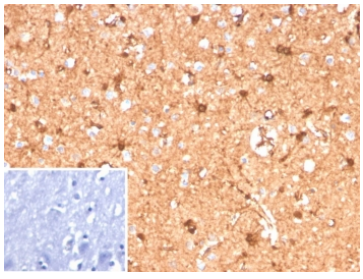
S100B Antibody / S100 calcium-binding protein B [clone S100B/12587R] (V5791)

Catalog No.	Formulation	Size
V5791-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5791-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5791SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

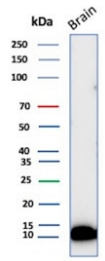
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	S100B/12587R
UniProt	P04271
Localization	Cytoplasm, Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This S100B antibody is available for research use only.



Immunohistochemistry analysis of S100B / S100 calcium-binding protein B antibody (clone S100B/12587R) in human brain tissue. FFPE human brain demonstrates diffuse cytoplasmic and nuclear HRP-DAB brown staining in glial cells, consistent with S100B expression. Staining highlights astrocyte-like cells with branching morphology distributed throughout the parenchyma, while neuronal cell bodies show comparatively weaker signal. Nuclei are counterstained blue. The inset image represents a secondary antibody negative control in which PBS was used in place of the primary antibody and shows absence of specific staining. 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.



Western blot testing of human brain tissue lysate with S100B antibody (clone S100B/12587R). Predicted molecular weight ~11 kDa.

Description

S100B antibody recognizes S100 calcium-binding protein B, a small cytoplasmic protein encoded by the human S100B gene located on chromosome 21q22.3. S100 calcium-binding protein B is a member of the S100 family of EF-hand calcium-binding proteins and is predominantly localized in the cytoplasm and nucleus. It is highly expressed in astrocytes within the central nervous system and is also detectable in Schwann cells, adipocytes, chondrocytes, and certain melanocytic cells. S100B antibody targets a protein widely used as a marker of glial differentiation and neural tissue integrity.

S100 calcium-binding protein B functions as a calcium sensor and regulatory protein. Upon binding calcium, S100B undergoes conformational changes that enable interaction with target proteins involved in cytoskeletal dynamics, cell proliferation, and intracellular signaling. It can modulate activities of p53, cytoskeletal components, and enzymes involved in cellular stress responses. In the extracellular space, S100B may act as a signaling molecule by interacting with the receptor for advanced glycation end products, influencing inflammatory and neurotrophic pathways.

S100B plays important roles in neural development, synaptic plasticity, and response to injury. Elevated extracellular S100B levels are associated with astrocyte activation and have been studied as a biomarker of brain injury and neurodegenerative conditions. In oncology, S100B expression is frequently observed in melanomas and certain glial tumors, where it is used as a diagnostic and prognostic marker. Structurally, S100B forms homodimers and contains two EF-hand motifs per monomer, characteristic of the S100 protein family.

S100B antibody is suitable for detecting S100 calcium-binding protein B expression in research focused on neurobiology, brain injury, glial biology, and melanoma studies. Recombinant monoclonal clone S100B/12587R is produced using defined expression systems to promote consistent performance and reproducibility in research applications.

Application Notes

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

Immunogen

A recombinant full-length human S100B protein was used as the immunogen for the S100B antibody.

Storage

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