

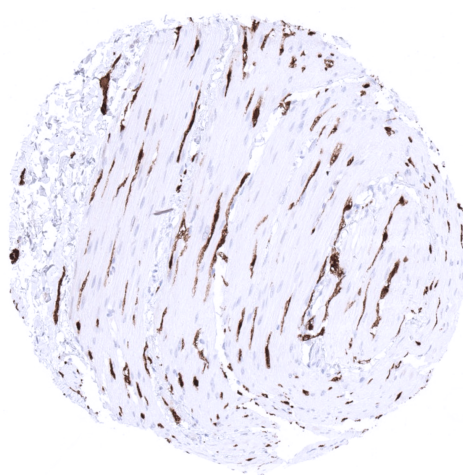
Anti-S100 Antibody MSVA-490R / Recombinant Rabbit monoclonal

Human SwissProt	P04271
Human Gene Symbol	S100B
Synonyms	NEF; Protein S100-B; S-100 protein beta chain; S100 calcium binding protein beta (neural); S100 calcium-binding protein B; S100 protein beta chain; S100B; S100beta
Specificity	S100B
Immunogen	Recombinant human S100B protein
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Cytoplasmic

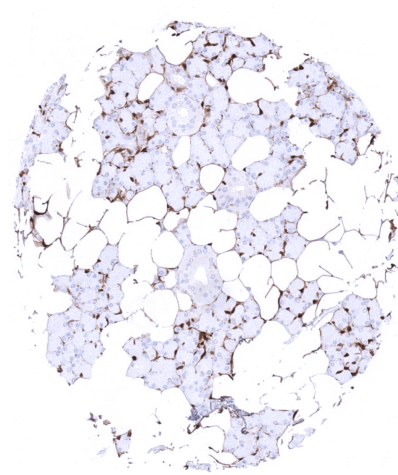
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide.
Positive Control	In the appendix, Schwann cells of peripheral nerves and adipocytes should show a strong nuclear and cytoplasmic S100B staining while smooth muscle or epithelial cells remain negative.
Negative Control	In the appendix, smooth muscle and epithelial should not stain.



Very intense S100 immunostaining in sample from normal cerebellum.



In the ileum, a strong S100 immunostaining occurs in nerve fibres within the muscular wall



In the parotid gland, a strong S100 positivity is seen in myoepithelial cells and in fat cells.

Biology

S100 beta is coded by a gene at chromosome 21q22. Its functions involve microtubule assembly, cation diffusion across lipid membranes, and RNA polymerase activity. S100B belongs to a group of more than 20 water soluble low-molecular-weight S100 proteins characterized by two calcium-binding sites that have a specific helix-loop-helix conformation. The "S100" gene name is derived from the fact that these proteins are soluble in 100%. Because most cells containing S100 protein also express the beta chain, S100B has become almost synonymous with S100 protein. In diagnostic pathology, S100B is used as a marker for Schwann cells and melanocytes. In these cell types, S100B is highly expressed, however, S100B is also regularly seen in various other cell types. In normal tissues, strong S100B immunostaining is found in the cerebrum, cerebellum, neurohypophysis, peripheral nerves (Schwann cells) which are visible in most organs, myoepithelial cells of salivary glands and breast glands, fat cells, Langerhans cells, sustentacular cells, melanocytes, chondrocytes, subsets of dendritic cells and lymphocytes as well as in serous cells of bronchial glands. A weaker S100B staining is seen in adrenal medullary cells, a fraction of cells in the adenohypophysis, and occasionally also in Sertoli cells of the testis, few acinar cells of the pancreas, and breast luminal cells. S100B expression is seen in many different tumor types. A positive S100B immunostaining is particularly frequent in brain tumors of various types, benign and malignant melanocytic tumors, Schwannoma, neurofibroma, myoepithelial tumors, Langerhans cell histiocytosis, and benign and malignant lipomatous tumors but occurs in many other tumor entities.

Potential Research Applications

- The diagnostic utility of S100 expression analysis should be further investigated in a large cohort of tumors from different entities.
- The clinical/biological significance of S100 expression in epithelial tumors is unknown.
- The role of S100 positive lymphocytes and dendritic cells is not clear.

Protocol Suggestions

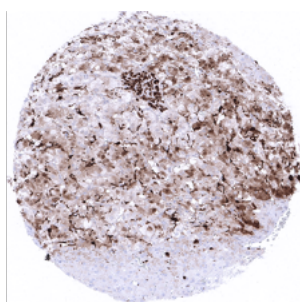
Dilution: 1:150 ; pH9 is optimal. Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

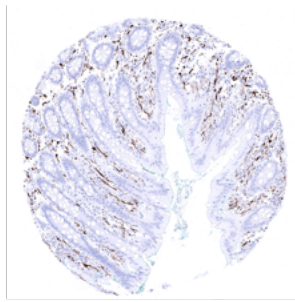
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

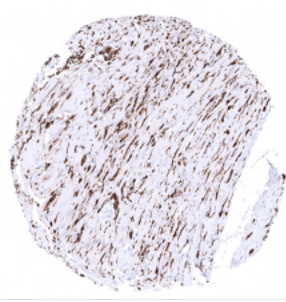
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



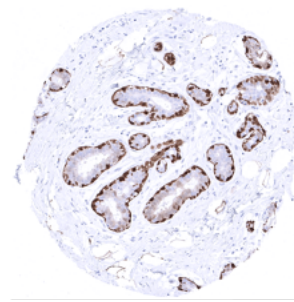
Adrenal gland - S100B positivity is seen in sustentacular cells and also in a fraction of medullary cells



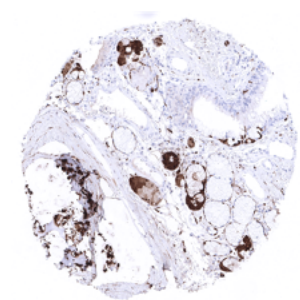
Appendix, mucosa - Appendix with a multitude of intramucosal S100 positive nerve fibres



Appendix, muscular wall - S100 positive nerve fibres are abundant in the muscular wall of the appendix



Breast - Strong S100 immunostaining in myoepithelial cells while staining is much weaker in luminal breast epithelial cells



Bronchus, mucosa - Strong S100 immunostaining in some serous cells of bronchial glands



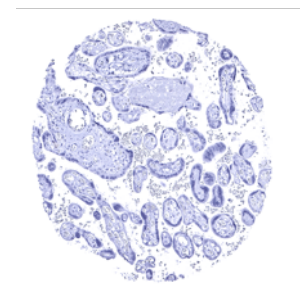
Cerebellum (molecular layer, Purkinje cell layer, granule cell layer, white matter) - Strong ubiquitous S100 staining in the cerebellum



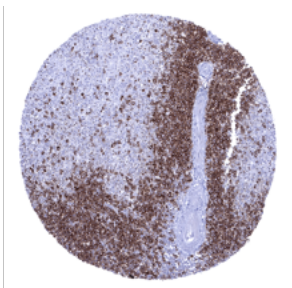
Cerebellum (molecular layer, Purkinje cell layer, granule cell layer, white matter) - Strong ubiquitous S100 staining in the cerebellum



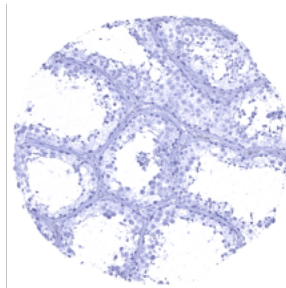
Cerebrum, grey matter - Strong ubiquitous S100 staining (except neurons)



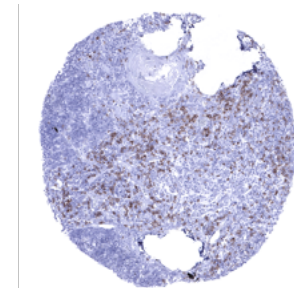
Cerebrum, white matter - Strong ubiquitous S100 staining



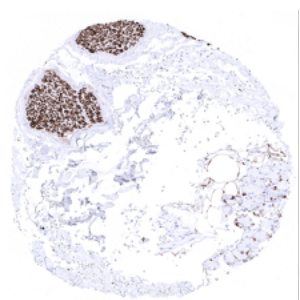
Duodenum, mucosa - A large number of S100 positive nerve fibres is seen in this sample from the duodenum



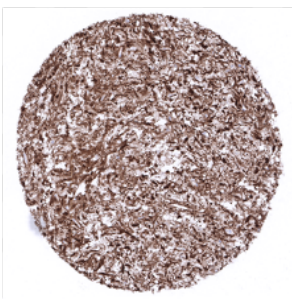
Parathyroid - S100 positivity is seen in fat cells



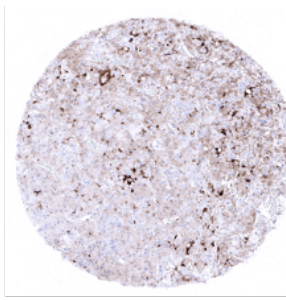
Parotid gland - S100 positivity is seen in myoepithelial cells, nerve fibres, and fat cells



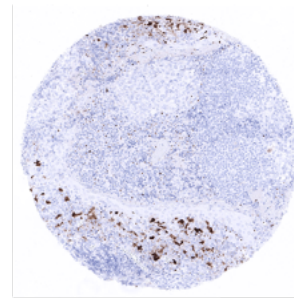
Parotid gland - Strong S100 staining of nerves and fat cells



Pituitary gland, posterior lobe



Pituitary, anterior lobe - A weak S100 staining can be seen in a fraction of cells in the adenohypophysis



Tonsil