

Anti-SATB2 Antibody MSVA-702R / Recombinant Rabbit monoclonal

Human SwissProt	Q9UPW6
Human Gene	SATB2
Symbol	
Synonyms	DNA-binding protein SATB2; GLSS; SATB homeobox 2; Special
	AT-rich sequence-binding protein 2
Specificity	SATB2
Immunogen	Recombinant fragment of human SATB2 protein
lsotype	Rabbit / IgG
Species Reactivity	Human
Localization	Nuclear
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide
	– store at -20 to -80 C. A ntibody 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	Appendix/colon: A strong nuclear staining should in virtually all columnar epithelial cells. Testis: Dispersed spermatocytes should show at least a weak nuclear staining.
Negative Control	Appendix/colon: No staining should be seen in stromal and smooth muscle cells. Tonsil: No staining should be seen in epithelial and lymphatic cells.



A strong nuclear SATB2 immunostaining is seen in all epithelial cells of the normal colorectal mucosa.

SATB2 negative ductal adenocarcinoma of the pancreas.

Colorectal adenocarcinoma showing strong SATB2 immunostaining of all tumor cells.

Biology

Special AT-rich sequence-binding protein 2 (SATB2) is a 82.5 kDa protein encoded by the SATB2 gene on 2q33. SATB2 is a DNA binding protein that binds to specific nuclear matrix attachment regions and plays a role in transcriptional regulation and chromatin remodeling. The protein is very highly conserved during evolution with only 3 of 733 amino acid differences between the human and the mouse protein. SATB2 plays a role in the development of neural, craniofacial, and osseous structures. In mouse models SATB2 haploinsufficiency results in craniofacial defects that phenocopy those caused by 2q32q33 deletion in humans. Germ line mutations in the SATB2 gene can cause isolated intellectual disabilities and cleft palates in humans. Among normal tissues, Nuclear SATB2 immunostaining occurs at highest intensity in epithelial cells of the colon, rectum and appendix as well as in osteoclasts. At lower level, SATB2 expression also occurs in epithelial cells of the ileum, neurons in the brain and spinal cord, some epithelial cells of distal tubuli and collecting ducts of the kidney, spermatocytes and oocytes. Among tumors, SATB2 immunostaining is most commonly seen in adenocarcinomas and neuroendocrine tumors derived from the colorectum or appendix, osteosarcomas, and in Merkel cell cancer. A positive SATB2 immunostaining, often at lower intensity, has also been described to occur in various other tumor entities.

Potential Research Applications

-The diagnostic utility of SATB2 expression analysis should be further investigated in a large cohort of tumors from different entities -the prognostic role of SATB2 expression in gastrointestinal adenocarcinomas is unclear.

Protocol Suggestions

Dilution: 1:100. pH 7,8 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. Not for resale without express authorization.

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.



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Appendix, mucosa - A strong nuclear SATB2 immunostaining is seen in all epithelial cells of the appendix mucosa



Cerebrum, white matter - A weak fibrillar immunostaining is seen in the white matter of the cerebrum



Kidney, cortex - A weak to moderate nuclear SATB2 immunostaining occurs in a fraction of epithelial cells of distal tubuli and collecting ducts of the kidney



Placenta, mature



Cerebellum - (molecular layer, Purkinje cell layer, granule cell layer, white matter) - A weak fibrillar immunostaining is seen in the white matter of the cerebellum



Colon descendens, mucosa - A strong nuclear SATB2 immunostaining is seen in all epithelial cells of the colorectal mucosa.



Kidney, medulla - A weak to moderate nuclear SATB2 immunostaining is seen in a subset of epithelial cells of collecting ducts of the kidney



Rectum, mucosa - A strong nuclear SATB2 immunostaining is seen in all epithelial cells of the colorectal mucosa



Cerebellum - (molecular layer, Purkinje cell layer, granule cell layer, white matter) - A weak fibrillar immunostaining is seen in the white matter



Duodenum, mucosa - SATB2 immunostaining is lacking in epithelial cells of the duodenal mucosa





Cerebrum, grey matter - Moderate to strong SATB2 immunostaining of neuronal cells



lleum, mucosa - A weak to moderate nuclear SATB2 immunostaining is seen in all epithelial cells of the ileum mucosa



Lymph node



Tonsil, surface epithelium



Testis - A weak nuclear SATB2 positivity is seen in a fraction of the spermatocytes in the testis

