MS Validated Antibodies GmbH
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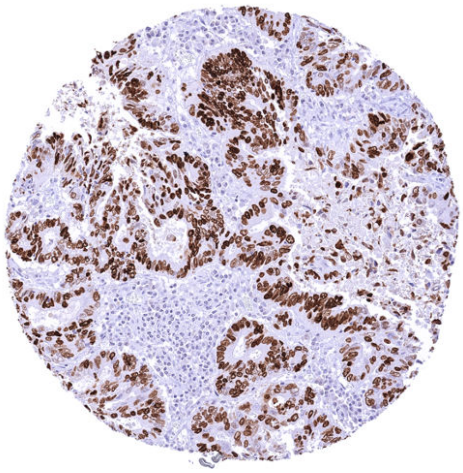
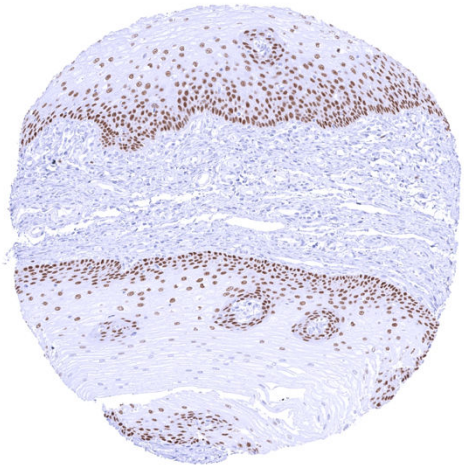
Anti- SOX2 Antibody
HMV338 / Mouse monoclonal

Human SwissProt	P48431
Human Gene Symbol	SOX2
Synonyms	SRY-box 2 , ANOP3 , MCOPS3
Specificity	SOX2
Immunogen	Recombinant human SOX2 fragment
Isotype	IgG2a
Species Reactivity	Human

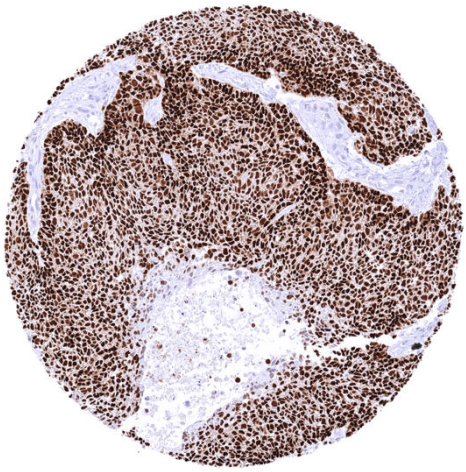
Localization	Nucleus
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Tonsil: A moderate to strong SOX2 staining should be seen in the bottom 2/3 of squamous epithelial cells.
Negative Control	Tonsil: SOX2 staining should be absent in lymphocytes and in other immune cells.



Colorectal adenocarcinoma with strong SOX2 positivity of all tumor cells.



Esophagus with SOX2 positivity which is gradually decreasing from basal to superficial cells in the squamous epithelium.



Laryngeal squamous cell carcinoma with strong SOX2 staining of tumor cells.

Biology

SOX2, also known as SRY (sex determining region Y)-box 2, is a transcription factors with an essential role in maintaining the cell's capability for self-renewal. It is critical for the maintenance of embryonic and neural stem cells. Forced re-expression of SOX2 together with Oct4, c-Myc, and Klf4 is sufficient to reprogram differentiated cells into pluripotent stem cells. SOX2 is also important for normal embryonal development. It is expressed already at a two cell stage of murine embryo formation. SOX2-deficient embryos die straight after implantation. In adult tissues SOX2 is preferentially expressed in non-keratinizing squamous epithelium, respiratory epithelium, basal cells of the prostate, fallopian tube epithelium, spermatocytes, glia cells, and the pituitary gland. Dysregulation of SOX2 plays a role in the pathogenesis of cancer. SOX2 expression has been linked to cancer stem cell formation, epithelial-mesenchymal transition, migration, invasion, increased cell proliferation, resistance to apoptosis and therapy, colony formation, and metastasis in various cancer types. Among cancers, SOX2 is mostly expressed in squamous cell carcinomas of various organs of origin. Less frequently, SOX2 expression also occurs in various other tumor types.

Potential Research Applications

-The diagnostic, prognostic, and predictive relevance of SOX2 expression in tumors and in preneoplastic disease needs to be further investigated.
-SOX2 may play a functional role in cancer drug resistance.
-SOX2 represents a promising therapeutic target.
-SOX2 is a critical gene in stem cell research.

Protocol Suggestions

Dilution: 1:100 - 1:200; pH 7,8 is optimal. Freshly cut sections should be used (more 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.

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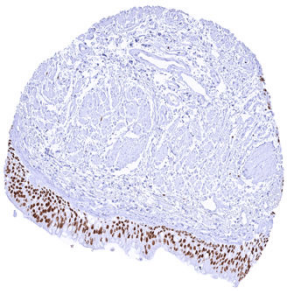
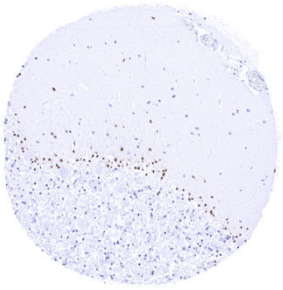
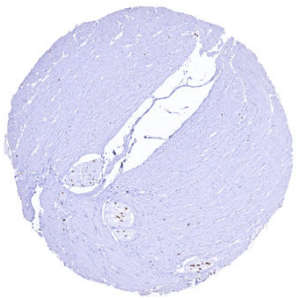


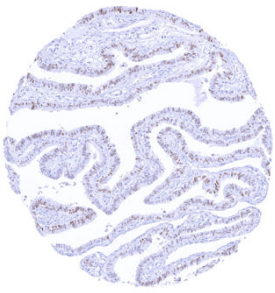
Bronchus, mucosa – Strong SOX2 positivity of respiratory epithelial cells



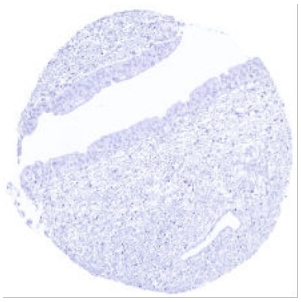
Cerebellum (molecular layer, Purkinje cell layer, granule cell layer)



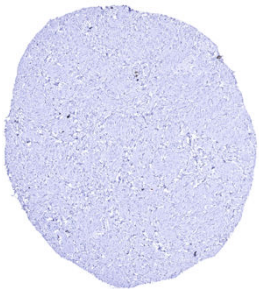
Colon descendens, muscular wall – Strong SOX2 positivity of a large fraction of intramural ganglion cells as well as of few spindle shaped (neural_) cells in the muscular wall



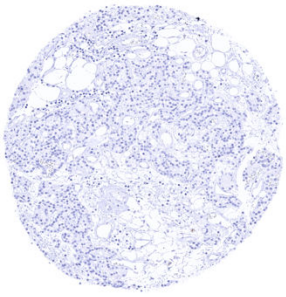
Fallopian tube, mucosa – Moderate to strong SOX2 positivity of a large subset of epithelial cells



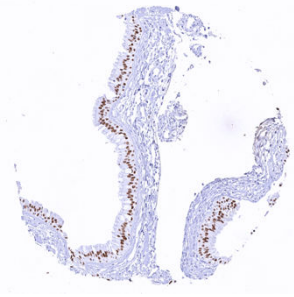
Kidney, pelvis, urothelium



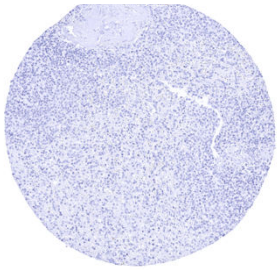
Ovary, stroma



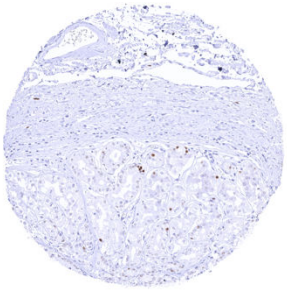
Parathyroid gland



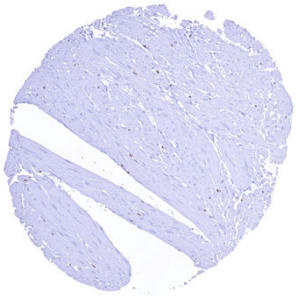
Sinus paranasales – Strong SOX2 positivity of respiratory epithelial cells



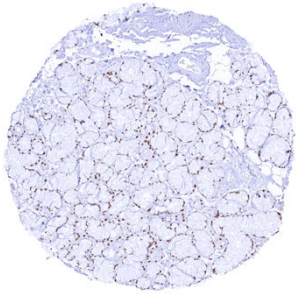
Spleen



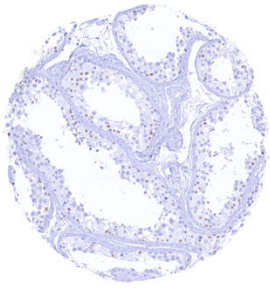
Stomach, antrum – Significant SOX2 staining of a fraction of glandular cells



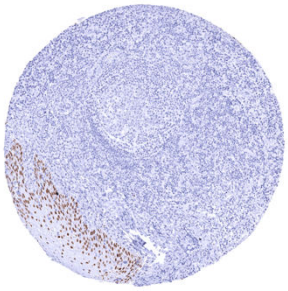
Stomach, muscular wall – Strong SOX2 positivity of few spindle shaped (neural_) cells in the muscular wall



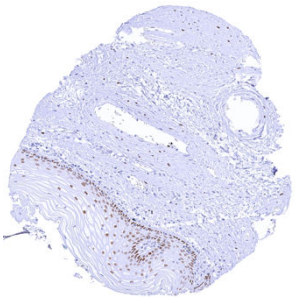
Sublingual gland



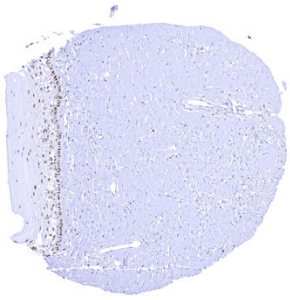
Testis – Weak to moderate SOX2 positivity of spermatocytes



Tonsil, surface epithelium



Uterus, ectocervix (2)



Uterus, ectocervix