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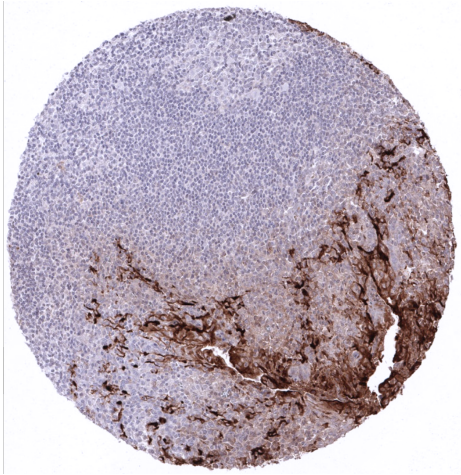
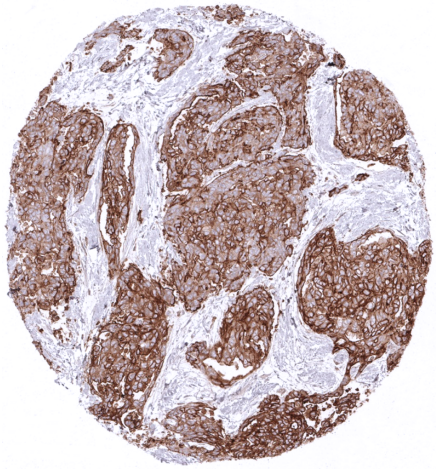
Anti-Mesothelin Antibody
MSVA-235M / Mouse monoclonal

Human SwissProt	Q13421
Human Gene Symbol	MSLN
Synonyms	CAK1; Megakaryocyte potentiating factor; Mesothelin; MSLN; SMR; SMRP
Specificity	Mesothelin
Immunogen	Recombinant fragment of human Mesothelin
Isotype	Mouse / IgG2, kappa,
Species Reactivity	Human
Localization	Cell Surface and Secreted

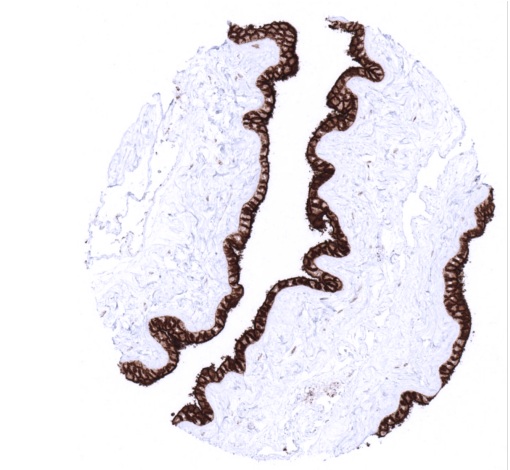
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Tris Buffer, pH 7,3 – 7,7 with 0.05% BSA & <0.1% azide.
Positive Control	Tonsil: A fraction of squamous epithelial cells of the tonsil crypts should show strong mesothelin immunostaining. In the fallopian tube an at least moderate mesothelin positivity should be seen at the apical membrane of epithelial cells.
Negative Control	Tonsil: Squamous epithelial cells of the tonsil surface and all lymphatic cells should not show mesothelin immunostaining.



Squamous epithelium of the tonsil crypts shows strong mesothelin immunostaining of a fraction of cells.



Strong mesothelin immunostaining in a serous ovarian carcinoma.



Amnion cells of the placenta show strong mesothelin positivity.

Biology

The mesothelin (MSLN) gene is located at chromosome 16p13.3 and codes for a membranous 40kDa glycoprotein that is subsequently cleaved into the soluble 31kD protein megakaryocyte potentiating factor (MPF) and the 40kD membrane-bound protein mesothelin (MSLN). MSLN was first described as a membrane protein expressed on normal and neoplastic mesothelial cells but subsequent studies demonstrated a broader expression pattern. The function of MSLN is not fully understood. Due to its membranous location and expression in various cancer types, mesothelin represents an attractive molecule for target-specific cancer therapies. Several therapy types, including adaptive immunotherapy, monoclonal antibodies, and antibody-drug conjugates have provided encouraging data in clinical phase I and II trials. In normal tissues, a strong mesothelin expression is observed in a fraction of the squamous epithelial cells of tonsil crypts, some individual cells and small cell groups of the rectal mucosa, anal transitional epithelium (predominance of superficial cell layers), amnion cells and some chorion cells of the mature placenta, and some elements of corpuscles of Hassall's of the thymus. A moderate to weak mesothelin staining is seen in scattered cells and cell groups in the endocervical mucosa and endometrium, epithelial cells of fallopian tube (apical cell border and cilia), some intermediate (neck) cells of the stomach antrum, some scattered glands in sublingual and Brunner glands, goblet cells of respiratory epithelium, and in in the cytoplasm of few cells of the adenohypophysis. Mesothelin can be found expressed in many different tumor types. The highest rates of positivity (>50% positive cases) are seen in carcinomas of the ovary, pancreas, endometrium, lung (adenocarcinoma) as well as in malignant mesothelioma. Mesothelin positivity is particularly rare or absent (<5%) carcinomas of the breast cancer, kidney, prostate, and the thyroid carcinomas as well as in most subtypes of soft tissue tumors.

Potential Research Applications

-Mesothelin is a highly promising therapeutic target for which a variety of drugs are under development.
-A comprehensive study analyzing mesothelin expression in various different tumor entities would be helpful to assess the diagnostic significance of mesothelin IHC.
-Mesothelin expression occurs in a variable fraction of cases in many different tumor types but the prognostic and predictive relevance of mesothelin expression is unclear.
-The function of mesothelin in cancers is not yet fully elucidated.

Protocol Suggestions

Dilution: 1:150 ; pH 9 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.

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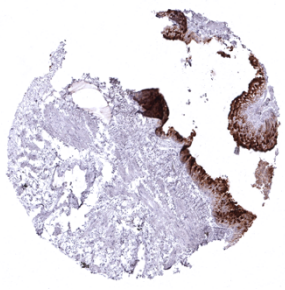
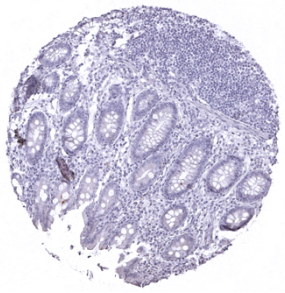
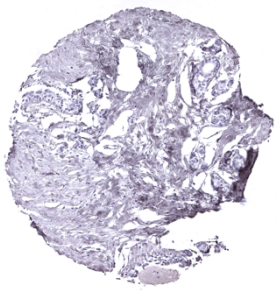


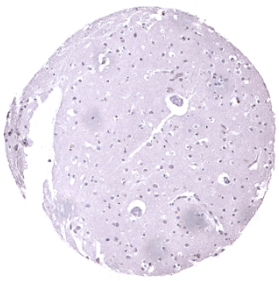
Anal canal, transitional mucosa - Strong mesothelin positivity in superficial mucinous cells of the transitional epithelium (and upper layer of non-keratinizing squamous epithelium) of the anal canel



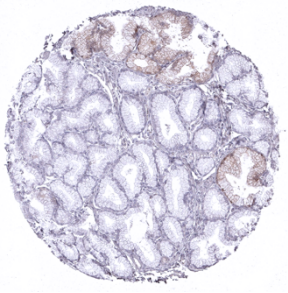
Appendix, mucosa



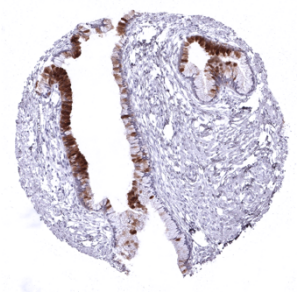
Breast



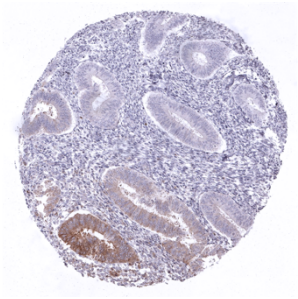
Cerebrum, grey



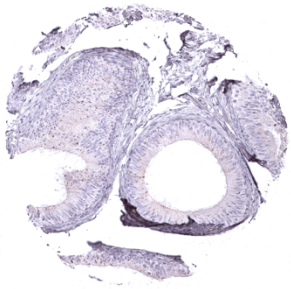
Duodenum, Brunner gland



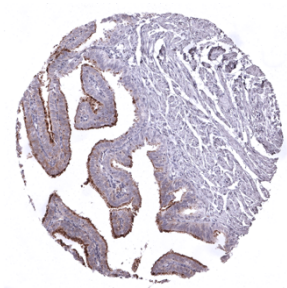
Endocervix - A focal mesothelin staining of variable intensity can be seen in scattered cells and groups of cells in the endocervical mucosa



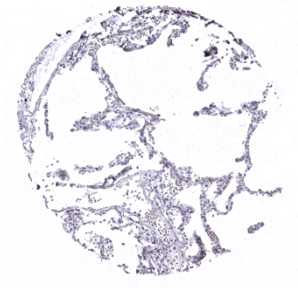
Endometrium, proliferation - A focal mesothelin staining of endometrium glands can be seen at variable intensity in the uterus



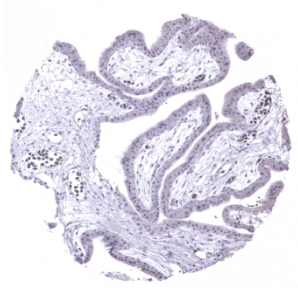
Epididymis



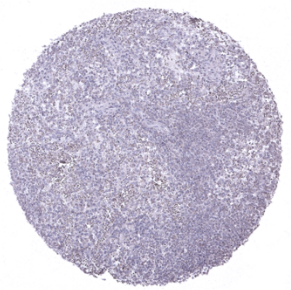
Fallopian tube, mucosa - Moderate intensity mesothelin immunostaining of the apical border and ciliae of epithelial cells of the fallopian tube



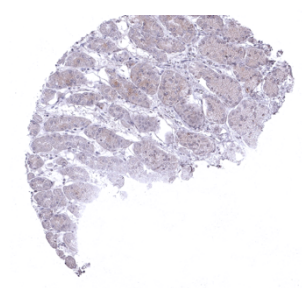
Lung



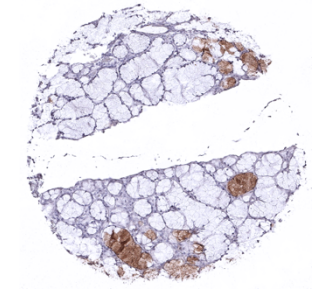
Placenta, early



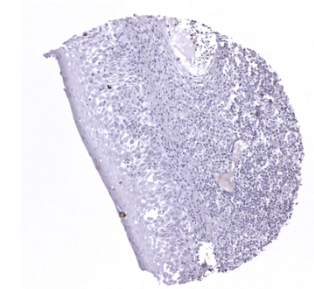
Spleen



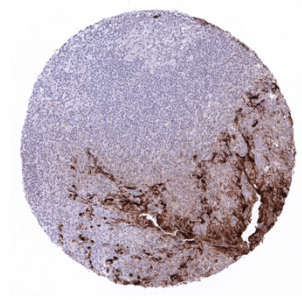
Stomach, corpus



Sublingual gland



Tonsil, surface epithelium



Tonsil