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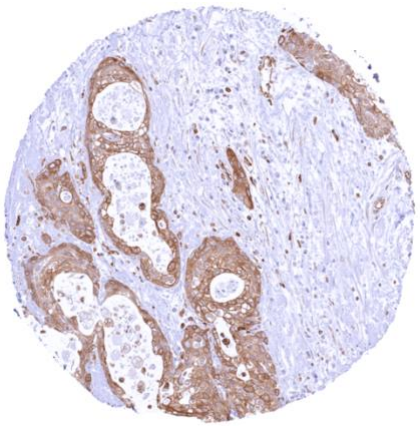
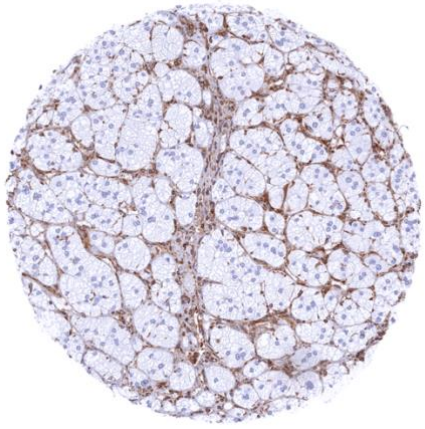
Anti- STING Antibody
MSVA-515M / Mouse monoclonal

Human SwissProt	Q86WV6
Human Gene Symbol	TMEM173
Synonyms	Endoplasmic reticulum interferon stimulator; ERIS; hMITA; hSTING; Mediator of IRF3 activation; MITA; NET23; MPYS; Mitochondrial mediator of IRF3 activation; N terminal methionine proline tyrosine serine plasma membrane tetraspanner; Stimulator of interferon genes protein; Transmembrane protein 173
Specificity	STING1
Immunogen	Recombinant fragment (around aa190-290) of human TMEM173 protein (exact sequence is proprietary)
Isotype	Mouse / IgG
Species Reactivity	Human

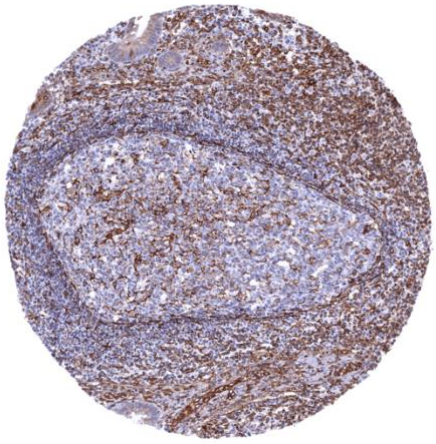
Localization	Cytoplasm.
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Adrenal gland: Endothelial cells and macrophages should show a moderate to strong STING positivity.
Negative Control	Adrenal gland: Adrenocortical and medullary cells should not show STING staining (Note: in case of tissue damage aberrant STING staining may occur).



Ductal adenocarcinoma of the pancreas showing strong STING positivity of all tumor cells.



STING staining of endothelial cells and of macrophages in the adrenal gland.



STING staining of inflammatory cells predominates in the interfollicular zone in appendix mucosa.

Biology

Stimulator of interferon genes (STING), also known as transmembrane protein 173 (TMEM173) is coded by the STING1 gene on chromosome 5q31.2. STING is a pathogen recognition receptor protein located in the endoplasmic reticulum. It is activated by cyclic dinucleotides (CDNs) which are either derived from microorganisms or synthesized by the enzyme cyclic GMP-AMP synthase (cGAS). STING plays an important role in innate immunity. STING induces type I interferon production when cells are infected with intracellular pathogens, such as viruses, mycobacteria and intracellular parasites. STING works as both a direct cytosolic DNA sensor (CDS) and an adaptor protein in Type I interferon signaling through different molecular mechanisms. In mice, STING deficiency facilitates development of several types of tumors while STING stimulation favors antitumor immunity. Acute STING activation in cancer is likely to exhibit type I IFN-mediated anti-tumor effect associated with cellular senescence and T lymphocyte-dependent immunity. In normal tissues, a moderate to strong STING staining is regularly seen in virtually all endothelial cells, a large fraction of T-lymphocytes, a subset of hematopoetic cells in the bone marrow, and in a fraction of macrophages. A diffuse strong epithelial cell staining occurs in respiratory epithelium, the fallopian tube, squamous epithelium of the tonsil, and the endocervix as well as in basal cells of the prostate, the seminal vesicles, and the epididymis. A somewhat weaker STING staining occurs in intercalated ducts of the pancreas and in Leydig cells of the testis. Epithelial STING staining is highly variable in the urothelium, the endometrium, gallbladder and in the gastrointestinal tract. In general, STING staining can occasionally occur in most cell types, especially in case of some morphological aspects of tissue damage. A variable STING staining of tumor cells and of stroma cells also occurs in many different tumor entities.

Potential Research Applications

-The prognostic and predictive role of different levels of STING expression in cancer should be investigated.
-The utility of STING as a therapeutic target should be evaluated.
-The function of STING is still not completely clear.

Protocol Suggestions

Dilution: 1:150. 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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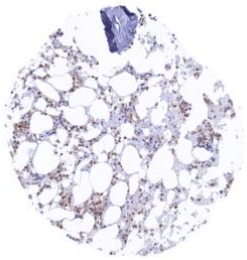
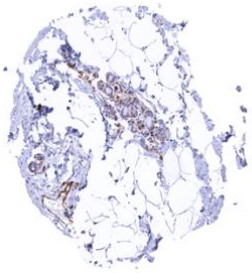
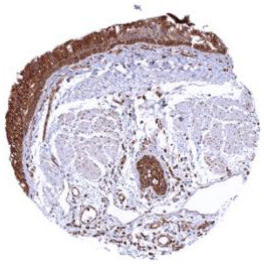
Appendix, mucosa – STING staining is strong in all epithelial cells in this sample



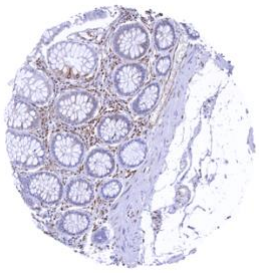
Bone marrow – STING staining of endothelial cells and a fraction of hematopoetic cells



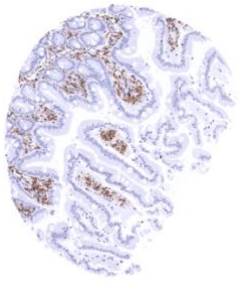
Breast – STING staining of some myoepithelial cells and (weakly) of luminal cells



Bronchus, glands – Strong STING staining of the respiratory epithelium

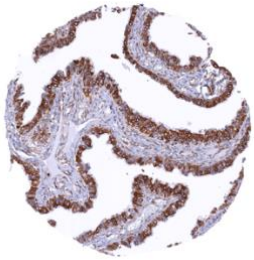


Colon descendens, mucosa – STING staining of only a very small subset of epithelial cells in this sample

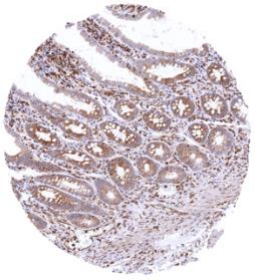


Duodenum, mucosa – STING staining of endothelial cells and a subset of lymphocytes

Esophagus, squamous epithelium – Weak to moderate STING staining of the basal cell layers of the squamous epithelium

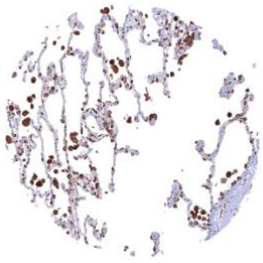


Fallopian tube, mucosa – Strong STING staining of epithelial cells

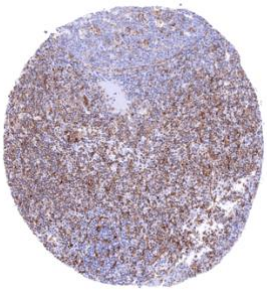


Ileum, mucosa – STING staining of endothelial cells, a subset of lymphocytes and of most epithelial cells

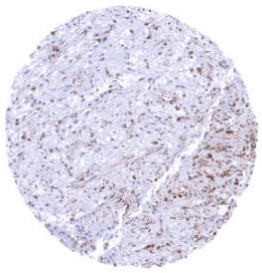
Kidney, pelvis, urothelium – Strong STING staining of the urothelium in this sample



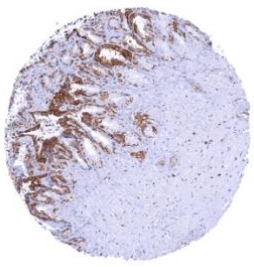
Lung – Strong STING staining of alveolar macrophages



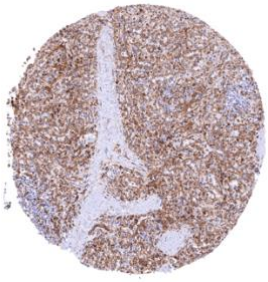
Lymph node – Moderate to strong STING staining of a significant fraction of lymphocytes, mainly in the interfollicular zone



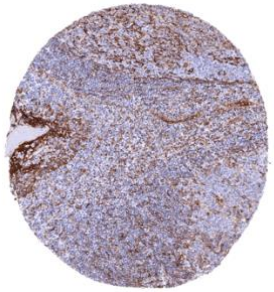
Pituitary gland, posterior lobe – STING staining of endothelial cells and probably of some other fibrous structures



Seminal vesicle – Moderate to strong STING staining of a scattered fraction of luminal epithelial and basal cells



Spleen – Strong STING staining of endothelial cells and a significant fraction of inflammatory cells



Tonsil – Moderate to strong STING staining of a fraction of lymphocytes, endothelial cells and of most cells of crypt epithelium