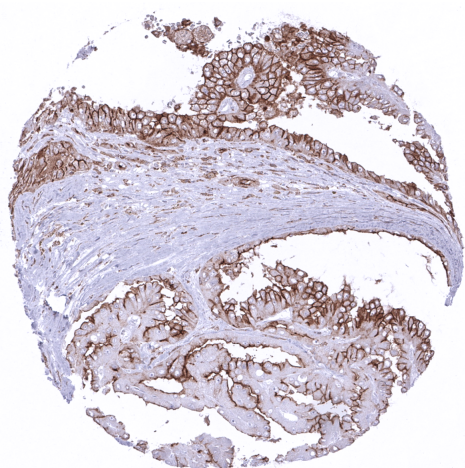


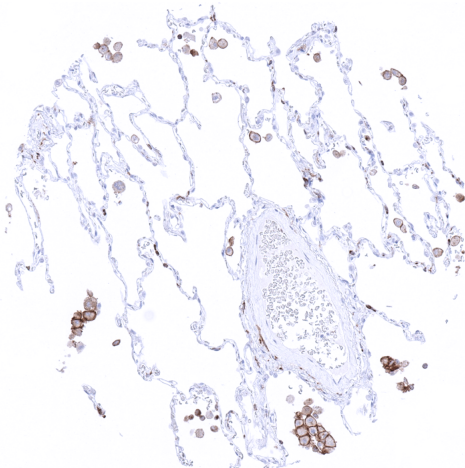
Anti- TIM3 Antibody MSVA-366R / Recombinant Rabbit monoclonal

Human SwissProt	Q8TDQ0
Human Gene Symbol	HAVCR2
Synonyms	CD366; HAVR2; Hepatitis A virus cellular receptor 2 (HAVCR2); Kidney injury molecule 3 (KIM3); T-cell immunoglobulin and mucin domain-containing protein 3; T-cell immunoglobulin mucin receptor 3; T-cell membrane protein 3; TIM3; TIMD3
Specificity	TIM3
Immunogen	Recombinant fragment of human TIM3 protein
Isotype	Rabbit / IgG
Species Reactivity	Human

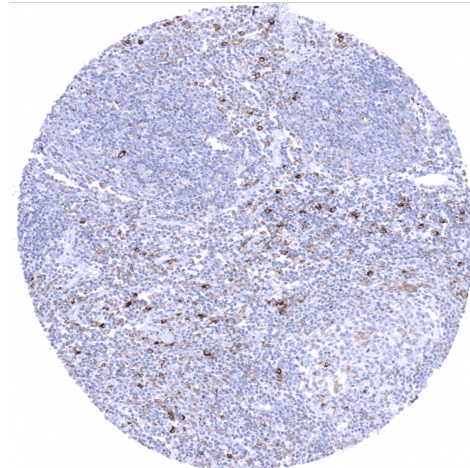
Localization	Cell Surface
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	A moderate to strong TIM-3 immunostaining should be seen in a significant fraction of the T-cells, while only few TIM-3 positive cells are seen in the germinal centre and the mantle zone.
Negative Control	Epithelial cells should be negative.



Strong membranous TIM-3 positivity in a papillary renal cell carcinoma.



Alveolar macrophages show strong TIM-3 immunostaining



A fraction of lymphocytes show strong TIM-3 immunostaining in a tonsil.

Biology

TIM-3 (T-cell immunoglobulin and mucin-domain containing-3) also termed Hepatitis A virus cellular receptor 2 (HAVCR2) is a 33 kDa cell surface receptor protein coded by the TIM-3 gene on 5q33.3. TIM-3 is an immune checkpoint. It mediates CD8+ T-cell exhaustion together with other inhibitory receptors such as PD-1 and LAG3. TIM-3 is primarily activated by galectin-9. The interaction with galectin-9 leads to stimulation of an influx of calcium to the intracellular space and induction of apoptosis. Other known TIM-3 ligands include phosphatidylserine (PtdSer), High Mobility Group Protein 1 (HMGB1) and Carcinoembryonic Antigen Related Cell Adhesion Molecule 1 (CEACAM1). In normal tissues, TIM-3 immunostaining is seen in a fraction of T-lymphocytes and of macrophages/dendritic cells in all organs. The TIM-3 staining intensity is variable for both lymphocytes and macrophages. A particularly strong staining of macrophages is seen in the placenta and the lung. TIM-3 immunostaining is also seen in venous sinusoids of the spleen and of Kupffer cells of the liver. Epithelial cell positivity occurs on apical membranes of a fraction of kidney tubuli and on the apical membranes of chief cells of the epididymis. An additional staining of apical membranes of the surface mucosa epithelial cells of the small intestine may reflect a (tolerable) cross-reactivity. TIM-3 positive lymphocytes and macrophages occur at variable density in virtually all cancers. TIM-3 can also be expressed on cancer cells such as for example in a fraction of renal cell carcinomas. TIM-3 is viewed as a promising drug target. Multiple phase 1/2 clinical trials with anti-TIM3 monoclonal antibodies are ongoing in various cancer types.

Potential Research Applications

- TIM-3 is an important immune checkpoint, the function of which deserves further evaluation.
- As TIM-3 can be expressed in epithelial cells (kidney, epididymis), the expression of TIM-3 in cancerous tissues needs to be investigated.
- The clinical significance of the density of TIM-3 positive lymphocytes and macrophages needs to be investigated.

Protocol Suggestions

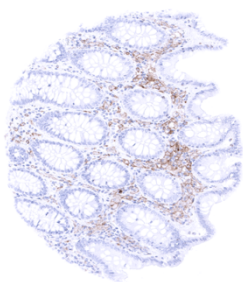
Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

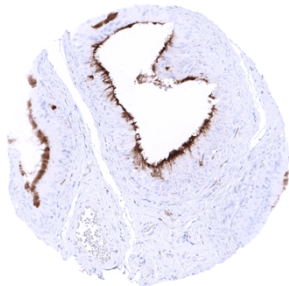
This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

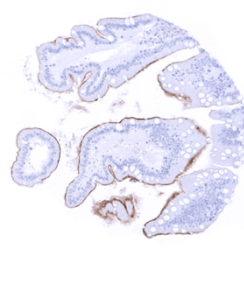
There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



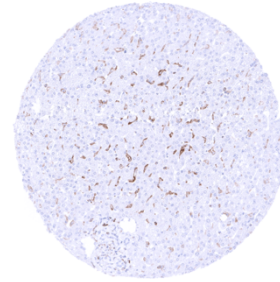
Colon descendens, mucosa - In the appendix mucosa, variable levels of TIM-3 immunostaining are seen in T-cells and in macrophages. Epithelial staining does not occur



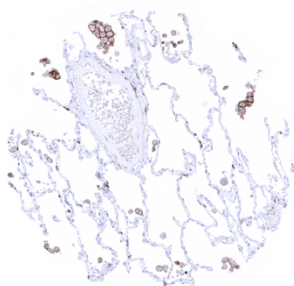
Epididymis - In the epididymis, a strong TIM-3 staining occurs at the apical membranes and cilia of tall columnar cells



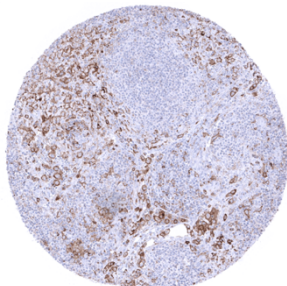
Ileum, mucosa - A membranous TIM-3 immunostaining of the surface epithelium of the small intestine may represent a (tolerable) cross-reactivity



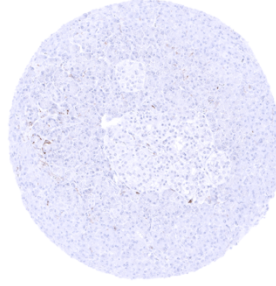
Liver



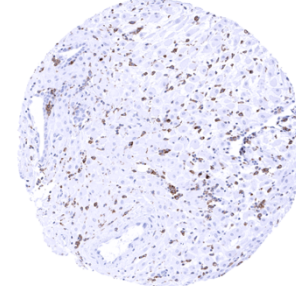
Lung - In the lung, a particularly strong TIM-3 immunostaining occurs in alveolar macrophages



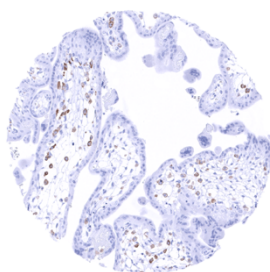
Lymph node - In the lymph node, TIM-3 expression is seen in subsets of T-lymphocytes and macrophages. In this sample, macrophages show a particularly strong TIM-3 positivity



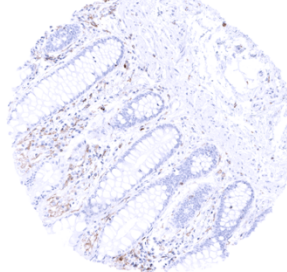
Pancreas



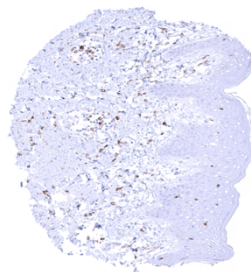
Placenta early, decidua



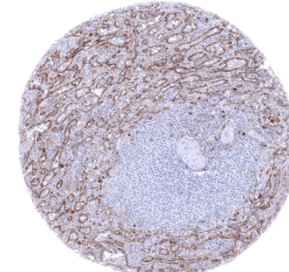
Placenta, early - In placenta macrophages, a strong TIM-3 immunostaining is seen



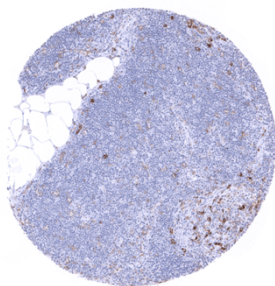
Rectum, mucosa



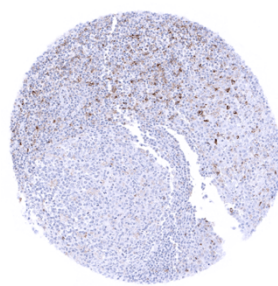
Skin - In the skin, TIM-3 immunostaining occurs in a fraction of T-lymphocytes and of macrophages



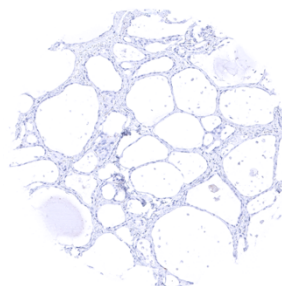
Spleen - In the spleen, TIM-3 immunostaining occurs in venous sinusoids as well as in T-lymphocytes



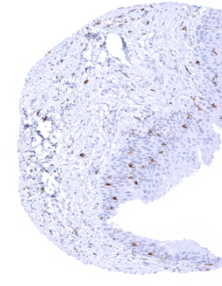
Thymus - In the thymus, TIM-3 immunostaining is rarely seen in cortical T-cells



Tonsil - In the tonsil, variable levels of TIM-3 immunostaining are seen in T-cells and in macrophages



Thyroid gland



Urinary bladder, urothelium