Anti-TIGIT / DIA-TG1-M
Mouse monoclonal anti-T cell marker (Immune checkpoint protein) Clone TG1

Product Information

Catalog No.:	**DIA-TG1-M**
Clone:	TG1
Isotype:	Mouse IgG1/k
Specificity:	TIGIT
Immunogen:	Recombinant peptide from extracellular domain of human TIGIT
Physical State:	Lyophilized powder
Species Reactivity:	Human
Positive Control:	Tonsil
Visualization:	Membranous

Reconstitution:	DIA-TG1-M, restore to 100 µl Reconstitute with sterile distilled water by gentle shaking for 10 minutes
Presentation:	In PBS with 2% BSA, 0.05% NaN3, pH 7.4. Antibody purified from culture supernatant
Applications:	Immunohistochemistry (IHC), standard formalin-fixed paraffin sec
Dilutions:	1:50 - 1:150 IHC-P (General recommendation, validation of antibody performance/protocol is the responsibility of the end user. Positive/negative controls should be run simultaneously with patient specimen. Interpretation must be made by a qualified pathologist within the context of patient's clinical history/other diagnostic tests.)
Associated Antibodies:	DIA-TG2-M, anti-TIGIT, clone TG2 DIA-R12, anti-PVRIG/CD112R, clone R12

Reactivity

Clone TG1 is the first monoclonal antibody detecting TIGIT in routine formalin-fixed paraffin-embedded tissue specimen. It has been validated for the identification of TIGIT positive T-cells infiltrating human tumors in order to allow the detection of TIGIT in the tumor microenvironment under pathological conditions.
TIGIT (T-cell immunoreceptor with Ig and ITIM domains) is a member of the poliovirus receptor (PVR) family and acts as an immune checkpoint protein expressed on subsets of T lymphocytes. The expression of TIGIT has been reported on NK cells, regulatory T cells, follicular T helper cells, memory CD4+ T cells, and CD8+ T cells, but it is not expressed on B cells or naive CD4+ T cells. TIGIT may be upregulated on naive CD4+ T cells upon activation. TIGIT has been shown to be upregulated on T cells in multiple cancer models. The ligands CD155 and CD112 are also highly expressed on dendritic cells and macrophages in several types of cancer. Additionally, TIGIT expression is highly correlated with the expression of other coinhibitory molecules, including PD-1. In addition to directly inhibiting cytotoxic T-cell activity, TIGIT can foster an immunosuppressive microenvironment through its impact on other immune cells, for example, by binding to CD155 on the surface of dendritic cells or by manipulating NK cell activity. TIGIT inhibiting drugs are currently being developed. Immunohistochemical application of monoclonal antibody TG1 may provide valuable information for clinical research and potential therapeutic interventions specifically targeting the TIGIT-related tumor immunology checkpoint.

Instructions for Use

Immunohistochemical staining of standard formalin-fixed paraffin sections

Deparaffinize and rehydrate according to standard procedures. Heat induced epitope retrieval (HIER) is required. Stringent heat pretreatment in an autoclave at 121°C (5min) is recommended (Tris-EDTA-citrate, pH 7.8, e.g. TEC-buffer). An automated straining protocol has been established on Leica Bond RX exclusively (see our Tech.Note at www.oncodianova.com), protocols for other automated strainers have not been established. For biotin/(strept)avidin-based detection techniques (e.g. Vectastain® Elite® ABC-HRP-kit/AEC) use the antibody at 1:50 dilution. For a polymer-based detection technique (e.g. Dako EnVision™ detection system, Peroxidase/DAB) use the antibody at 1:100-150 dilution. The antibody stains cell membranes of various lymphocyte subtypes. Weak non-specific nuclear/nucleolar staining may occur in some epithelial tissues (i.e. colon cancer).

Storage and Stability

Store the lyophilized antibody at 2-8°C. For long term storage freeze at -20°C, thus the antibody is stable for at least one year. As reconstituted liquid store at 2-8°C short term (several weeks). Avoid repeated freeze / thaw cycles.

Safety Notes

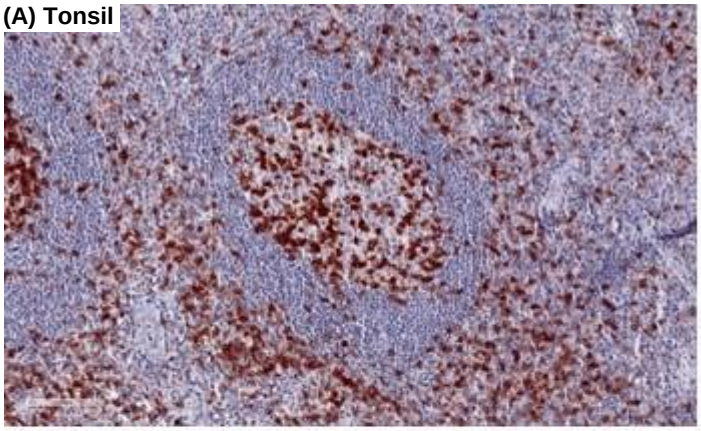
The material contains 0.05% sodium azide as preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material. Avoid skin and eye contact, inhalation and ingestion.

Figures

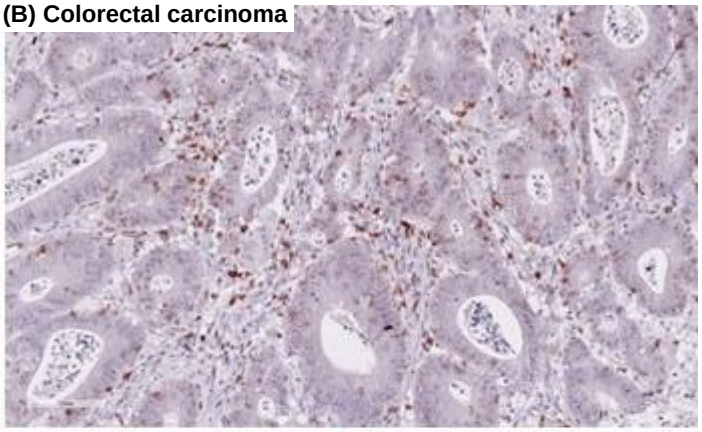
Immunohistochemistry of human TG1 in routine formalin-fixed paraffin-embedded tissue samples

A: Normal human tonsil with numerous TIGIT-positive lymphocytes
B: Tumor infiltrating lymphocytes in colorectal carcinoma
C: Inflamatory lymphoid infiltrate in Hashimoto thyroiditis
D: Sarcoid granuloma interspersed with TIGIT-positive lymphocytes

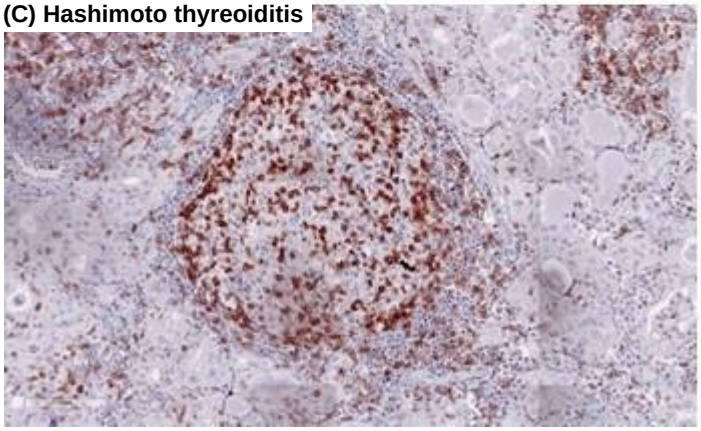
(A) Tonsil



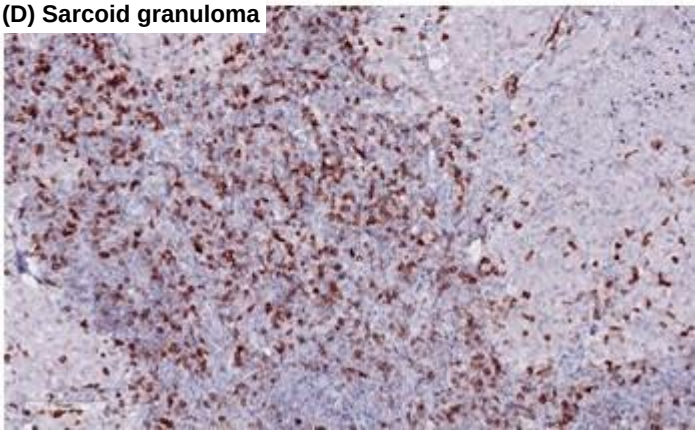
(B) Colorectal carcinoma



(C) Hashimoto thyreoiditis



(D) Sarcoid granuloma



References for clone TG1

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