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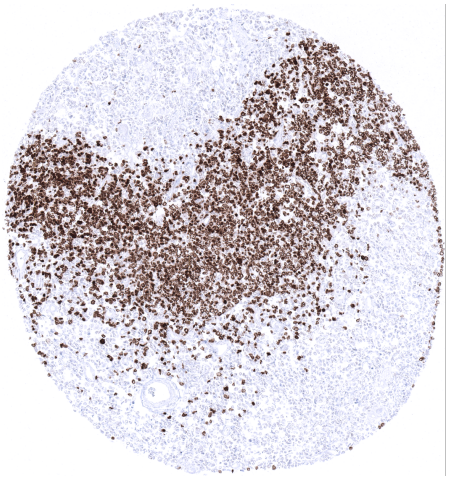
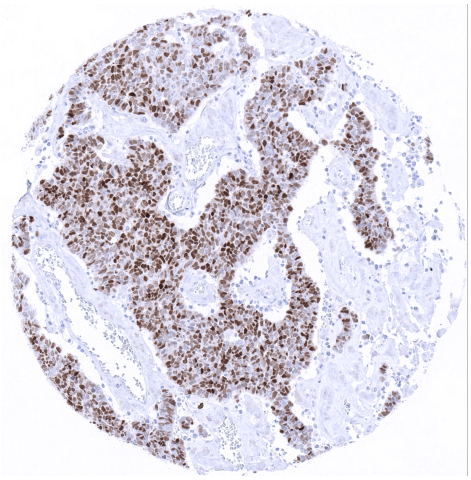
Anti- TdT Antibody
MSVA-453R / Recombinant Rabbit monoclonal

Human SwissProt	P04053
Human Gene Symbol	DNTT
Synonyms	Deoxynucleotidyltransferase terminal; DNTT; Nucleosidetriphosphate DNA Deoxynucleotidylexotransferase; TDT; Terminal addition enzyme; Terminal deoxynucleotidyltransferase; Terminal deoxyribonucleotidyltransferase
Specificity	TdT
Immunogen	Recombinant human DNTT protein
Isotype	Rabbit / IgG
Species Reactivity	Human
Localization	Nucleus

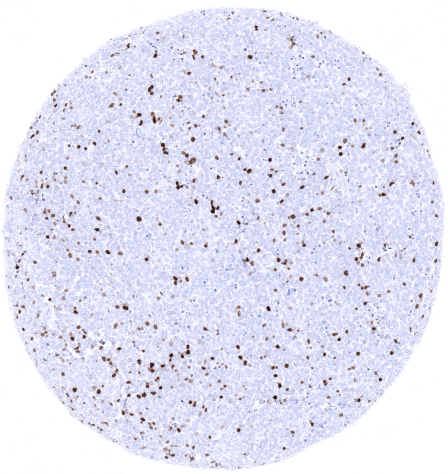
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Thymus: At least a moderate nuclear immunostaining should be seen in virtually all cortical lymphocytes of the normal thymus. Tonsil: A strong nuclear staining should be seen in a few scattered lymphoid cells in the interfollicular area.
Negative Control	Thymus: The vast majority of the medullary lymphocytes of the normal thymus should be negative. Tonsil: The vast majority of lymphoid cells and all epithelial cells should be negative. y, colonic mucosa, and epidermis.



In the thymus, strong nuclear TdT staining is seen in the vast majority of cortical lymphocytes while only scattered positive cells are present in the medulla, especially in areas that are immediately adjacent to the cortex.



Merkel cell carcinoma with moderate to strong TdT immunostaining in >80% of tumor cells.



Merkel cell carcinoma with strong TdT positivity in <5% of tumor cells.

Biology

Terminal deoxynucleotidyl transferase (TdT) is a 58 kDa protein coded by the DNTT gene on 10q23-q24. It is a highly specialized template-independent DNA polymerase which is normally only expressed in immature, pre-B, pre-T lymphoid cells. In these cells TdT catalyzes the addition of N-nucleotides to the V, D, and J exons of the T-cell receptor (TCR) and B-cell receptor (TCR) genes which creates junctional diversity during antibody gene recombination. A high diversity of TCR and BCR is important for the diversity to antibody recognition sites and thus for the function of the immune system. In normal tissues, a moderate to strong nuclear staining is seen in the vast majority of cortical lymphocytes of the normal thymus while only scattered positive cells are present in the cortex adjacent medulla. Few scattered lymphoid cells with strong TdT expression can be seen in the interfollicular area of lymph nodes and tonsils, especially in non-adult patients. Only few tumor entities show TdT expression. Almost all pre-B and pre-T acute lymphoblastic leukemia/lymphoblastic lymphoma (ALL/LBL) show strong and diffuse TdT immunostaining. An often weak and only focal TdT positivity can also be seen in acute myelogenous leukemia / myeloid sarcoma, blastic plasmacytoid dendritic cell neoplasm, Burkitt lymphoma, as well as in some indolent T cell proliferations. Positive TdT immunostaining is seen in the vast majority of lymphocyte predominant thymoma and in 40-50% of Merkel cell carcinomas.

Potential Research Applications

TdT expression has also been described in non-hematological neoplasias. The role of TdT in these neoplasms is unclear. Many tumor types have so far not been analyzed for Tdt expression.

Protocol Suggestions

Dilution: 1:100 ; 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.

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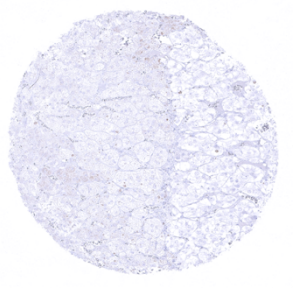
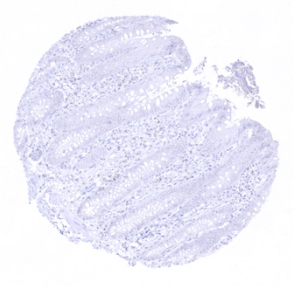
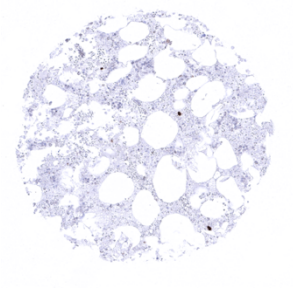


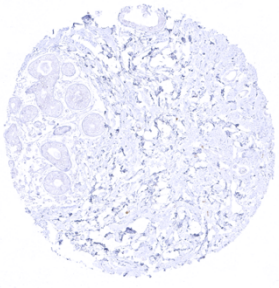
Adrenal gland



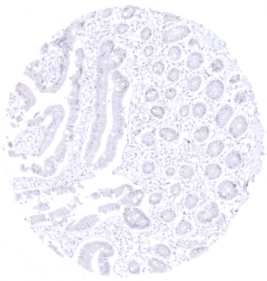
Appendix, mucosa



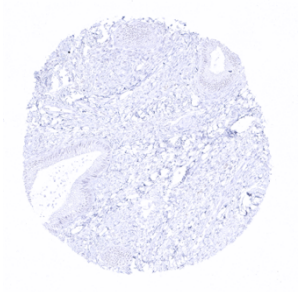
Bone marrow - Few scattered TdT positive cells (hematogones) can be seen in the bone marrow



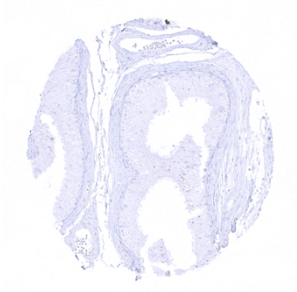
Breast



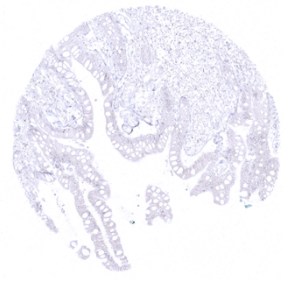
Duodenum, mucosa



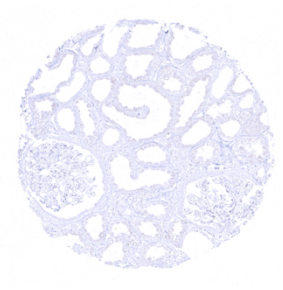
Endocervix



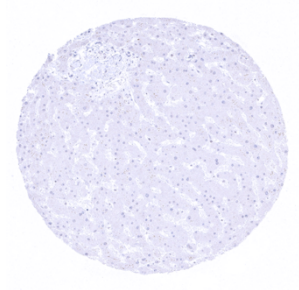
Epididymis



Ileum, mucosa

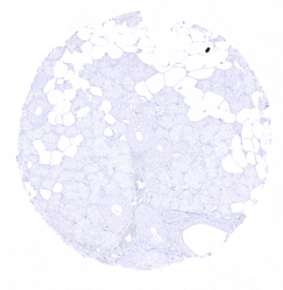


Kidney, cortex

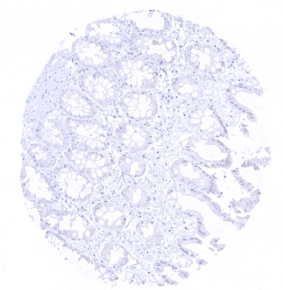


Liver

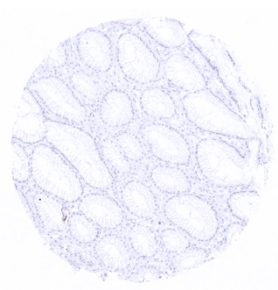
Lymph node



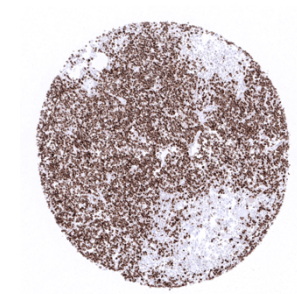
Parotid gland



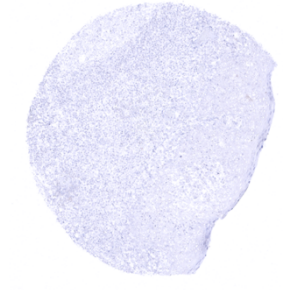
Rectum, mucosa



Stomach, antrum



Thymus – In the Thymus, a moderate to strong nuclear TdT staining is seen in the vast majority of cortical lymphocytes



Tonsil, surface epithelium