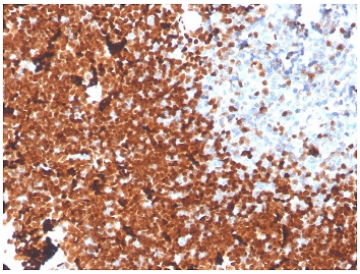
TdT Antibody Mouse Monoclonal / DNA nucleotidylexotransferase [clone DNTT/1453] (V8536)

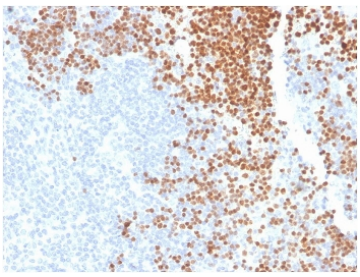
Catalog No.	Formulation	Size
V8536-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8536-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8536SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

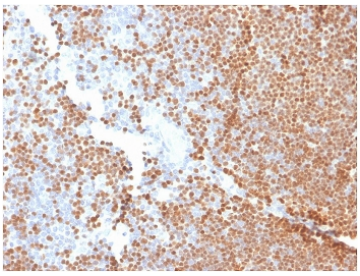
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	DNTT/1453
Purity	Protein G affinity chromatography
UniProt	P04053
Localization	Nucleus
Applications	ELISA : 2-4ug/ml for coating; order Ab without BSA) Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This TdT antibody is available for research use only.



Immunohistochemistry of TdT antibody in human thymus tissue. Formalin-fixed, paraffin-embedded human thymus demonstrates strong nuclear staining in immature cortical thymocytes, consistent with Terminal deoxynucleotidyl transferase expression in developing T lymphoblasts. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to staining. The mouse monoclonal TdT antibody was used as the primary antibody, showing distinct nuclear localization in thymic precursor cells.



IHC staining of FFPE human thymus with TdT antibody mouse monoclonal. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



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Description

TdT antibody, also known as Terminal deoxynucleotidyl transferase antibody, recognizes a specialized nuclear DNA polymerase encoded by the DNTT gene on chromosome 10q23-q24. The TdT Antibody Mouse Monoclonal Clone DNTT/1453 detects Terminal deoxynucleotidyl transferase, commonly referred to as TdT, a member of the DNA polymerase X family that is selectively expressed in immature lymphoid cells. TdT antibody, also referred to as DNTT antibody and Terminal transferase antibody in the literature, is widely used in research focused on lymphoid development and hematologic malignancies.

Terminal deoxynucleotidyl transferase catalyzes the template-independent addition of deoxynucleotides to the 3-prime hydroxyl termini of DNA during V(D)J recombination. This unique enzymatic activity introduces N-nucleotide diversity within immunoglobulin and T cell receptor gene segments, significantly expanding antigen receptor repertoire complexity. TdT functions in coordination with RAG1 and RAG2 recombination complexes and components of the non-homologous end joining pathway. Its catalytic core contains conserved polymerase domains characteristic of the Pol X family, enabling nucleotide incorporation without a DNA template. A TdT antibody therefore supports studies of adaptive immune system development and receptor gene assembly.

DNTT expression is tightly regulated and largely restricted to early B and T lymphoblasts within bone marrow and thymus. In thymic cortex, TdT-positive cells represent developing T cell precursors undergoing receptor rearrangement. Expression decreases as lymphocytes mature, making TdT a well-established marker of lymphoid immaturity. Elevated nuclear TdT expression is frequently observed in acute lymphoblastic leukemia and lymphoblastic lymphoma, where TdT antibody detection supports research into leukemic blast populations and lymphoid neoplasia biology.

Structurally, TdT contains regulatory regions that influence substrate selection and protein-protein interactions within recombination complexes. Alternative splicing of DNTT can generate isoforms with subtle biochemical differences that may influence catalytic efficiency. Persistent or dysregulated expression of DNTT contributes to genomic variability and is implicated in lymphoid malignancy development. Through its central role in immune receptor diversification, TdT remains essential to both normal lymphopoiesis and disease-oriented research applications.

Application Notes

Optimal dilution of the TdT antibody mouse monoclonal should be determined by the researcher.

Immunogen

A portion of amino acids 52-192 from the human protein was used as the immunogen for the TdT antibody mouse

monoclonal.

Storage

Store the TdT antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).