abcam

ab76544

Anti-TdT antibody [EPR2976Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.21% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR2976Y
Purification technique	Affinity purification Protein A
Concentration	0.159 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

Species	Rat, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Rat
Dilution info	1/2000
Notes	-

Species	Human
Dilution info	1/2000
Notes	-

Species	Mouse
Dilution info	1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

Species	Rat, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

Species	Rat, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information DNTT

Function	Template-independent DNA polymerase which catalyzes the random addition of deoxynucleoside 5'-triphosphate to the 3'-end of a DNA initiator. One of the in vivo functions of this enzyme is the addition of nucleotides at the junction (N region) of rearranged Ig heavy chain and T-cell receptor gene segments during the maturation of B- and T-cells.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The target protein TdT also known as terminal deoxynucleotidyl transferase or DNTT is an enzyme with a mass of approximately 58 kDa. TdT is specifically expressed in the thymus and bone marrow during early B and T lymphocyte development. This enzyme adds nucleotides to the 3’ ends of DNA contributing to the diversity of the immune response by introducing variability at the junctions of gene segments.
Biological function summary	Terminal deoxynucleotidyl transferase plays an important role in the adaptive immune system. By adding random nucleotides to the V(D)J regions during the development of T and B cells it enhances the variability of antigen receptors. Although TdT does not form part of a larger protein complex its activity directly influences the effectiveness of antigen recognition by lymphocytes important for immune surveillance and response.
Pathways	Terminal deoxynucleotidyl transferase fits into the V(D)J recombination pathway which is essential for the assembly of diverse antigen receptor genes in immature lymphocytes. This enzyme works in conjunction with proteins like RAG1/RAG2 which initiate the DNA cleavage process necessary for recombination and with DNA ligase IV for the joining stage. Enhanced diversity generated by TdT's activity substantiates an effective and adaptable immune response.
Associated diseases and disorders	TdT is associated with lymphoid malignancies such as acute lymphoblastic leukemia (ALL) where its expression acts as a diagnostic marker. Overexpression or dysregulation of TdT often found in these leukemias correlates with abnormal lymphocyte proliferation. TdT involvement in these disorders is linked to abnormal p53 pathways as p53 mutation frequently occurs alongside abnormal TdT activity suggesting a connection to cellular growth and survival dysregulation in affected cells.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

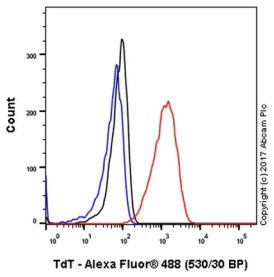
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

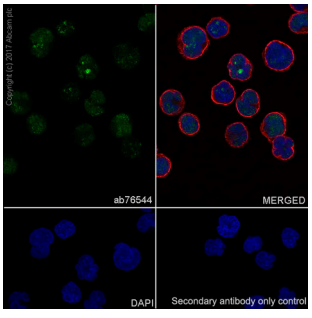
7 product images



Flow Cytometry (Intracellular) - Anti-TdT antibody [EPR2976Y] (ab76544)

TdT Flow Cytometry (Intracellular) staining using rabbit Anti-TdT antibody

Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling TdT with purified ab76544 at 1/20 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).

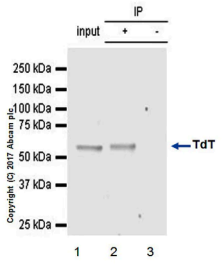


Immunocytochemistry/ Immunofluorescence - Anti-TdT antibody [EPR2976Y] (ab76544)

TdT Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TdT antibody

Immunocytochemistry/ Immunofluorescence analysis of MOLT-4 (Human lymphoblastic leukemia T lymphoblast) cells labeling TdT with Purified ab76544 at 1:100 dilution (1.5µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200. ab150077 Goat anti rabbit IgG(Alexa Fluor® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.

Immunoprecipitation - Anti-TdT antibody [EPR2976Y] (ab76544)



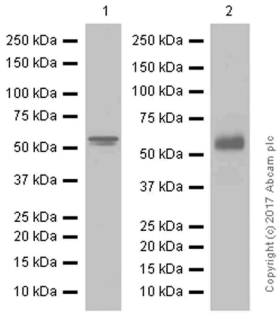
ab76544 (purified) at 1:20 dilution (2µg) immunoprecipitating TdT in Jurkat (human acute T cell leukemia) whole cell lysate.

Lane 1 (input): Jurkat (human acute T cell leukemia) whole cell lysate 10µg
Lane 2 (+): ab76544 & Jurkat (human acute T cell leukemia) whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab76544 in Jurkat (human acute T cell leukemia) whole cell lysate

For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1:1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-TdT antibody [EPR2976Y] (ab76544)

Predicted band size: 59 kDa

Western blot - Anti-TdT antibody [EPR2976Y] (ab76544)



Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-TdT antibody [EPR2976Y] (ab76544) at 1/2000 dilution

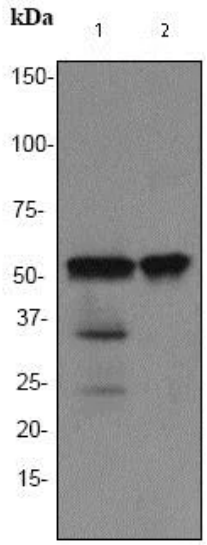
Lane 1:
Jurkat (human acute T cell leukemia) whole cell lysates at 15 µg

Lane 2:
Mouse thymus lysates at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 59 kDa



Western blot - Anti-TdT antibody [EPR2976Y] (ab76544)

All lanes:
Western blot - Anti-TdT antibody [EPR2976Y] (ab76544) at 1/10000 dilution

Lane 1:
Human thymus lysate at 10 µg

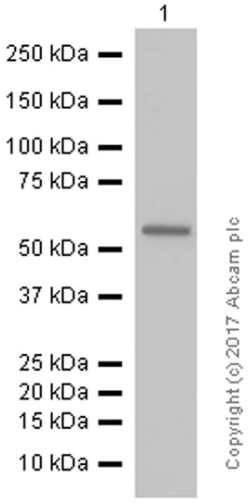
Lane 2:
Jurkat lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 59 kDa

Observed band size: 24 kDa, 35 kDa, 58 kDa



Western blot - Anti-TdT antibody [EPR2976Y] (ab76544)

TdT Western blot staining of Human fetal thymus lysates using rabbit Anti-TdT antibody

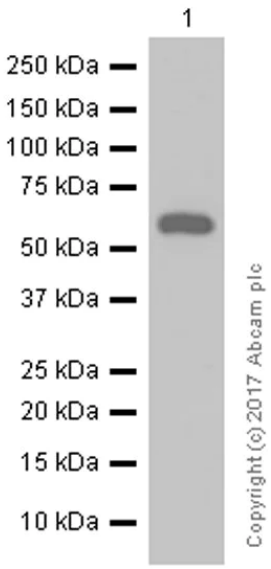
Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-TdT antibody [EPR2976Y] (ab76544) at 1/10000 dilution

All lanes:
Human fetal thymus lysates at 15 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 59 kDa



Western blot - Anti-TdT antibody [EPR2976Y] (ab76544)

TdT Western blot staining of Rat thymus lysates using rabbit Anti-TdT antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-TdT antibody [EPR2976Y] (ab76544) at 1/10000 dilution

All lanes:
Rat thymus lysates at 20 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/2000 dilution

Predicted band size: 59 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.