abcam

ab315392

Anti-TCF7 antibody [EPR28579-5]

Recombinant | RabMAb | Advanced Validation | KO Validated | 20ul selling size

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), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR28579-5
Purification technique	Affinity purification Protein A
Specificity	This antibody should detect all TCF1/TCF7 isoforms, including those lacking the amino-terminal β-catenin binding domain.
Concentration	0.49 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000

Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

mIHC

Tested

Species	Human
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information TCF7

Function	Transcriptional activator involved in T-cell lymphocyte differentiation. Necessary for the survival of CD4(+) CD8(+) immature thymocytes. Isoforms lacking the N-terminal CTNNB1 binding domain cannot fulfill this role. Binds to the T-lymphocyte-specific enhancer element (5'-WWCAAAG-3') found in the promoter of the CD3E gene. Represses expression of the T-cell receptor gamma gene in alpha-beta T-cell lineages (By similarity). Required for the development of natural killer receptor-positive lymphoid tissue inducer T-cells (By similarity). TLE1, TLE2, TLE3 and TLE4 repress transactivation mediated by TCF7 and CTNNB1. May also act as feedback transcriptional repressor of CTNNB1 and TCF7L2 target genes.

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	TCF7 also known as TCF1 is a transcription factor belonging to the TCF/LEF family with a molecular mass of approximately 54 kDa. TCF7 plays a significant mechanical role in binding to DNA and regulating gene expression in cell nuclei. It interacts with beta-catenin to control the transcription of target genes. This protein is expressed in various tissues including the thymus and other parts of the immune system as well as the intestines.
Biological function summary	TCF7 regulates cell fate decisions and differentiation specifically in the T-cell lineage. It is part of a protein complex with beta-catenin and acts as a transcriptional activator. TCF7 influences the development and function of T-cells playing a critical role in adaptive immune response. It contributes to the maintenance of stem cell properties in various tissues impacting processes like cell proliferation and survival.
Pathways	TCF7 is a vital component of the Wnt/beta-catenin signaling pathway which is essential for regulating gene expression in various cellular processes. This pathway maintains homeostasis in cell proliferation differentiation and stem cell renewal. Within this signaling network beta-catenin an important mediator partners with TCF7 to modulate target gene transcription. TCF7 also interacts with other proteins such as LEF1 which similarly participates in the transcription regulation vital for cellular development.
Associated diseases and disorders	TCF7 associates with several pathological conditions including cancers and immunodeficiencies. Abnormal activation of the Wnt/beta-catenin pathway involving TCF7 contributes to the development of colon cancer by promoting unregulated cell division. TCF7 mutations have been linked to immunodeficiency disorders given its critical role in T-cell development. These mutations may disrupt normal T-cell formation leading to impaired immune responses.

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.

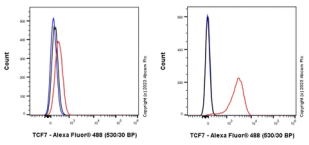
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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11 product images

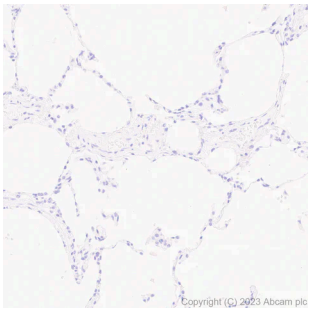


Flow Cytometry (Intracellular) - Anti-TCF7 antibody [EPR28579-5] (ab315392)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized LNCaP (human prostate carcinoma epithelial cell, Left) / MOLT-4 (human lymphoblastic leukemia T lymphoblast, Right) cells labelling TCF7 with ab315392 at 1/500 dilution (0.1 ug)/Red (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: LNCaP.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TCF7 antibody [EPR28579-5] (ab315392)

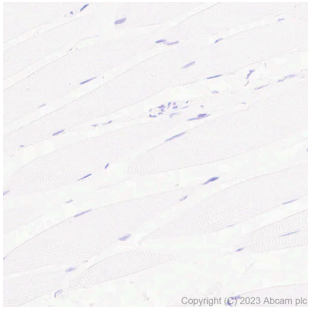
TCF7 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human lung using rabbit Anti-TCF7 antibody

Immunohistochemical analysis of paraffin-embedded Human lung tissue labeling TCF7 with ab315392 at 1/2000 (0.245 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human lung. The section was incubated with ab315392 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TCF7 antibody [EPR28579-5] (ab315392)

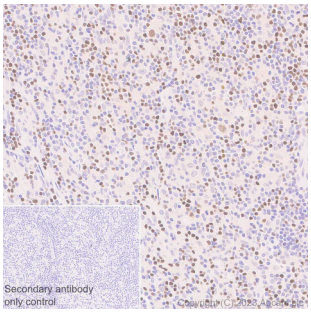
TCF7 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human skeletal musclee using rabbit Anti-TCF7 antibody

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling TCF7 with ab315392 at 1/2000 (0.245 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human skeletal muscle. The section was incubated with ab315392 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



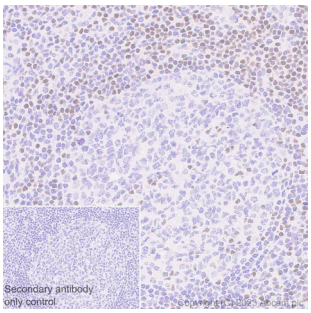
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TCF7 antibody [EPR28579-5] (ab315392)

Immunohistochemical analysis of paraffin-embedded Human Hodgkin's Lymphoma tissue labeling TCF7 with ab315392 at 1/2000 (0.245 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human Hodgkin's Lymphoma. The section was incubated with ab315392 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



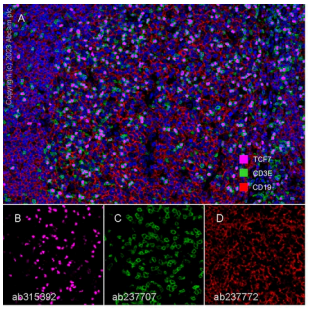
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TCF7 antibody [EPR28579-5] (ab315392)

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling TCF7 with ab315392 at 1/2000 (0.245 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human tonsil (PMID: 12707037). The section was incubated with ab315392 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-TCF7 antibody [EPR28579-5] (ab315392)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded human tonsil tissue staining TCF7 with ab315392 at a 1:2000 (0.26 ug/ml) dilution, ab237707 anti-CD3E used at 1:500 (1.01 ug/ml) dilution and ab237772 anti-CD19 used at a 1:5000 (0.21 ug/ml) dilution.

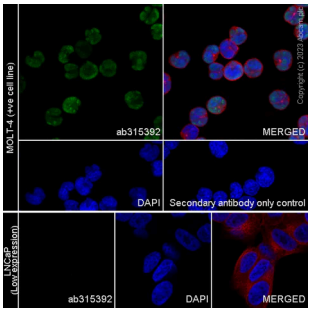
Panel A: merged staining of anti-TCF7 (magenta; Opal™690), anti-CD3E (green; Opal™520) and anti-CD19 (red; Opal™570) on human tonsil.
Panel B: anti-TCF7 staining T lymphocytes of human tonsil.
Panel C: anti-CD3E staining T lymphocytes of human tonsil.
Panel D: anti-CD19 staining B lymphocytes of human tonsil.

The section was incubated in three rounds of staining: in the order of ab315392, ab237707, and ab237772 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.

Nuclear counter stain with DAPI.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



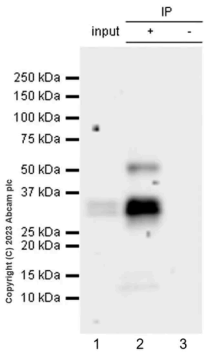
Immunocytochemistry/ Immunofluorescence - Anti-TCF7 antibody [EPR28579-5] (ab315392)

Immunofluorescent analysis of 80% Methanol-fixed, 0.1% TritonX-100 permeabilized MOLT-4 (human lymphoblastic leukemia T lymphoblast) cells labelling TCF7 with ab315392 at 1/50 (9.8 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 ug/ml dilution (Green).

Confocal image showing nuclear staining in MOLT-4 cell line. Low expression: LNCaP (PMID: 25436980). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 ug/ml dilution.



Immunoprecipitation - Anti-TCF7 antibody [EPR28579-5] (ab315392)

TCF7 was immunoprecipitated from 0.35 mg MOLT-4 (human lymphoblastic leukemia T lymphoblast) whole cell lysate with ab315392 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab315392 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-TCF7 antibody [EPR28579-5] (ab315392) at 1/1000 dilution

Lane 1:
MOLT-4 (human lymphoblastic leukemia T lymphoblast) whole cell lysate

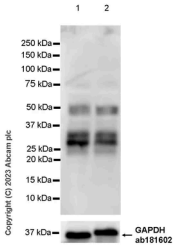
Lane 2:
ab315392 at 1/30 IP in MOLT-4 (human lymphoblastic leukemia T lymphoblast) whole cell lysate

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab315392 in MOLT-4 whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 32s



Western blot - Anti-TCF7 antibody [EPR28579-5] (ab315392)

TCF7 Western blot staining using rabbit Anti-TCF7 antibody

This antibody should detect all TCF1/TCF7 isoforms, including those lacking the amino-terminal β-catenin binding domain.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-TCF7 antibody [EPR28579-5] (ab315392) at 1/1000 dilution

Lane 1:
Human thymus tissue lysate at 20 µg

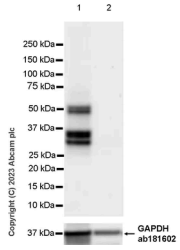
Lane 2:
Human tonsil tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 28-54 kDa, 36 kDa

Exposure time: 26s



Western blot - Anti-TCF7 antibody [EPR28579-5] (ab315392)

TCF7 Western blot staining using rabbit Anti-TCF7 antibody

Low expression: LNCaP (PMID25436980).

This antibody should detect all TCF1/TCF7 isoforms, including those lacking the amino-terminal β-catenin binding domain.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-TCF7 antibody [EPR28579-5] (ab315392) at 1/1000 dilution

Lane 1:
MOLT-4 (human lymphoblastic leukemia T lymphoblast) whole cell lysate at 20 µg

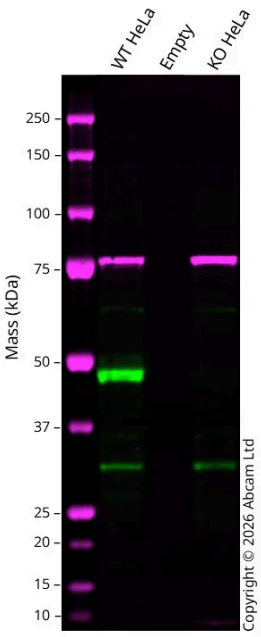
Lane 2:
LNCaP (human prostate carcinoma epithelial cell) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 28-54 kDa, 36 kDa

Exposure time: 15s



Western blot - Anti-TCF7 antibody [EPR28579-5] (ab315392)

TCF7 Western blot staining using rabbit Anti-TCF7 antibody

Western blot: Anti-TCF7 antibody [EPR28579-5] ab315392 staining at 1/1000 dilution, shown in green; Mouse anti-CANX ab238078 loading control staining at 1/20000 dilution, shown in magenta. A band was observed at 47 kDa. To generate this image, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5% Milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit 800CW and Goat anti-Mouse 680RD at 1/20,000 dilution.
All lanes:
Western blot - Anti-TCF7 antibody [EPR28579-5] (ab315392) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 40 µg

Lane 2:
Western blot - Human TCF7 knockout HeLa cell line (ab265127)

Lane 3:
TCF7 knockout HeLa cell lysate at 40 µg

Secondary

All lanes:
Goat anti-Rabbit 800CW & Goat anti-Mouse 680RD at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 42 kDa

Observed band size: 47 kDa

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