abcam

ab53293

Anti-LEF1 antibody [EP2030Y]

Recombinant | RabMAb | 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	EP2030Y
Purification technique	Affinity purification Protein A
Concentration	0.101 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/5000
Notes	**For unpurified format use at 1/1000 dilution.**

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information LEF1_HUMAN

Function

Transcription factor that binds DNA in a sequence-specific manner (PubMed:2010090). Participates in the Wnt signaling pathway (By similarity). Activates transcription of target genes in the presence of CTNNB1 and EP300 (By similarity). PIAG antagonizes both Wnt-dependent and Wnt-independent activation by LEF1 (By similarity). TLE1, TLE2, TLE3 and TLE4 repress transactivation mediated by LEF1 and CTNNB1 (PubMed:11266540). Regulates T-cell receptor alpha enhancer function (PubMed:19653274). Required for IL17A expressing gamma-delta T-cell maturation and development, via binding to regulator loci of BLK to modulate expression (By similarity). Acts as a positive regulator of odontoblast differentiation during mesenchymal tooth germ formation, expression is repressed during the bell stage by MSX1-mediated inhibition of CTNNB1 signaling (By similarity). May play a role in hair cell differentiation and follicle morphogenesis (By similarity). Isoform 1. Transcriptionally activates MYC and CCND1 expression and enhances proliferation of pancreatic tumor cells. Isoform 3.

Lacks the CTNNB1 interaction domain and may therefore be an antagonist for Wnt signaling. Isoform 5. Transcriptionally activates the fibronectin promoter, binds to and represses transcription from the E-cadherin promoter in a CTNNB1-independent manner, and is involved in reducing cellular aggregation and increasing cell migration of pancreatic cancer 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

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	LEF1 also known as lymphoid enhancer-binding factor 1 is a transcription factor important in the Wnt signaling pathway. It typically weighs around 44 kDa. This protein contains a high-mobility group (HMG) box domain that enables it to bind specifically to DNA and influence gene expression. LEF1 is primarily expressed in tissues with active Wnt signaling including developing organs and certain cell types like T-cells specifically Jurkat cells. Researchers use LEF1 protein immunohistochemistry (LEF1 IHC) and LEF1 markers for expression analysis in different tissues.
Biological function summary	The LEF1 transcription factor plays a significant role in cellular processes such as cell differentiation proliferation and embryonic development. As part of the Wnt signaling complex it interacts with β-catenin to regulate target gene expression. Activation of Wnt signaling by LEF1 can lead to changes in the cellular structure and function necessary for tissue development and regeneration. LEF1 also contributes to maintaining the pluripotency of stem cells by modulating gene networks critical for stem cell properties.
Pathways	The LEF1 protein is essential in Wnt/β-catenin signaling and influences the Hedgehog pathway. LEF1 pairs with β-catenin to drive the transcription of Wnt target genes involved in cell cycle and differentiation. These pathways maintain stem cell populations and regulate development. LEF1's function in these pathways links it closely to other factors like TCF7L2 and GLI family proteins which also play vital roles within these signaling cascades.
Associated diseases and disorders	LEF1 can be linked to conditions such as cancer and immune-related diseases. Overexpression or mutation of the LEF1 protein can lead to various types of cancers including leukemia and colorectal cancer by promoting abnormal cell proliferation and survival. LEF1's role in the immune system also associates it with autoimmune diseases where dysregulation of Wnt signaling might contribute to disease progression. Altered interactions between LEF1 and β-catenin or other associated proteins can disrupt normal cellular activities leading to these pathologies.

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

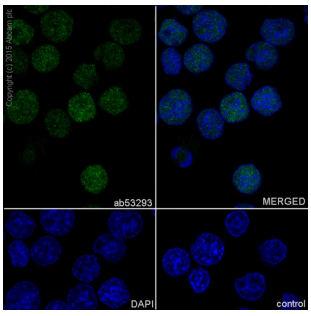
We do not recommend this combination. It is not covered by our product promise.

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.

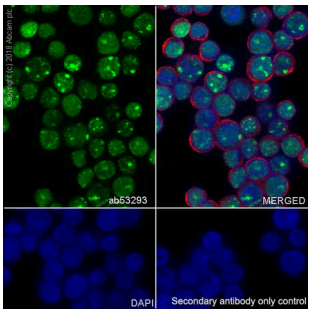
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-LEF1 antibody

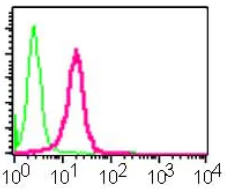
ab53293 (unpurified) staining LEF1 in RAMOS (human Burkitt's lymphoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/500. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a dilution of 1/1000. DAPI was used as a nuclear counterstain and the negative control was PBS only.



Immunocytochemistry/ Immunofluorescence - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-LEF1 antibody

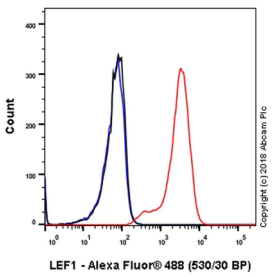
Immunocytochemistry/ Immunofluorescence analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling LEF1 with purified ab53293 at 1/50 dilution (2.0 µg/ml). Cells were fixed in 100% Methanol. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Flow Cytometry (Intracellular) staining using rabbit Anti-LEF1 antibody

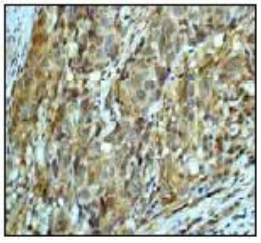
Intracellular flow cytometric analysis of permeabilized Jurkat cells using ab53293 (unpurified) (red) or a rabbit IgG (negative) (green).



Flow Cytometry (Intracellular) - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Flow Cytometry (Intracellular) staining using rabbit Anti-LEF1 antibody

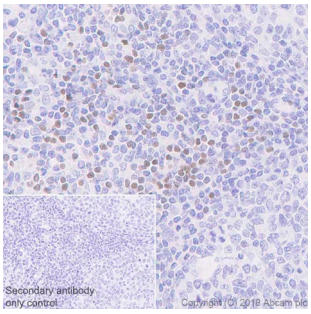
Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling LEF1 with purified ab53293 at 1/20 dilution (10µg/ml) (red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-LEF1 antibody

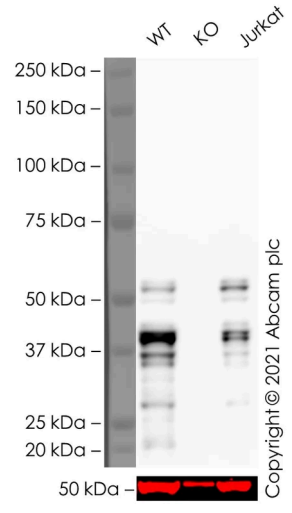
Paraffin-embedded human colon adenocarcinoma tissue stained for LEF1 using ab53293 (unpurified) at 1/50 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-LEF1 antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human tonsil tissue sections labeling LEF1 with purified ab53293 at 1/50 dilution (1.94 µg/ml). Heat mediated antigen retrieval was performed using heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Western blot - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Western blot staining using rabbit Anti-LEF1 antibody

False colour image of Western blot: Anti-LEF1 antibody [EP2030Y] staining at 1/5000 dilution, shown in black; Mouse anti-Alpha Tubulin [DM1A] (ab7291) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab53293 was shown to bind specifically to LEF1. A band was observed at 40/53 kDa in wild-type Jurkat cell lysates with no signal observed at this size in Lef1 knockout cell line ab274898 (knockout cell lysate ab274956). To generate this image, wild-type and Lef1 knockout Jurkat cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3% 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 before development with Optiblot (ECL reagent ab133456) and imaged with 8 minutes exposure time. Secondary antibodies used were HRP conjugated Goat anti-Rabbit (H+L) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) at 1/20000 dilution.
All lanes:
Western blot - Anti-LEF1 antibody [EP2030Y] (ab53293) at 1/5000 dilution

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

Lane 2:
Lef1 knockout Jurkat cell lysate at 40 µg

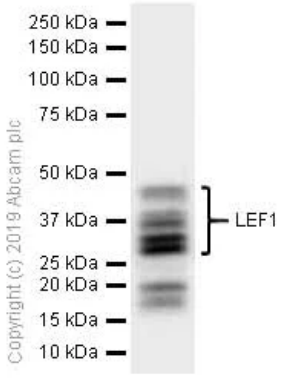
Lane 2:
Western blot - Human LEF1 knockout Jurkat cell line (ab274898)

Lane 3:
Jurkat cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 44 kDa

Observed band size: 40 kDa



Western blot - Anti-LEF1 antibody [EP2030Y] (ab53293)

This antibody recognizes all 7 LEF1 isoforms with the MW ranging from 23 to 44 KD based on immunogen blast.
All lanes:
Western blot - Anti-LEF1 antibody [EP2030Y] (ab53293) at 1/5000 dilution

All lanes:
Jurkat (Human T cell leukemia T lymphocyte) whole cell lysates at 15 µg

Secondary

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

Predicted band size: 44 kDa

Observed band size: 23-44 kDa

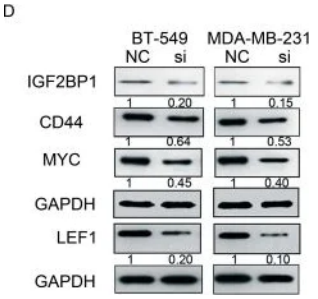


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Western blot - Anti-LEF1 antibody [EP2030Y] (ab53293)

LEF1 Western blot staining using rabbit Anti-LEF1 antibody

LEF1 western blot using anti-LEF1 antibody [EP2030Y] ab53293. Publication image and figure legend from Tang, L., Chen, Y., et al., 2020, J Cancer, PubMed 31897227.

ab53293 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab53293 please see the product overview.

DCST1-AS1 regulates the downstream proteins of miR-873-5p. (A) The expression level of IGF2BP1 in BRCA was analyzed by TCGA data. **, $p < 0.0001$. (B) TCGA data analysis showed that IGF2BP1 expressed higher levels in TNBC and luminal subtypes than normal controls, with significant differences. #, $p < 0.05$, *, $p < 0.01$. (C) The relationship between the expression of IGF2BP1 and the prognosis of BRCA patients was analyzed by TCGA data. $P = 0.0054$. (D) Western blot showed a decrease in the expression of IGF2BP1, MYC, LEF1 and CD44 in DCST1-AS1 interfering cells. (E) The miR-873-5p inhibitor was transfected into BT-549-si cells, and the expression of IGF2BP1 protein was measured by Western blot. (F) The miR-873-5p inhibitor was transfected into BT-549-si cells and cell proliferation was measured by CCK8 assay. *, $p < 0.01$. (G) The miR-873-5p inhibitor was

transfected into BT-549-si cells and cell migration was measured by wound healing assay. *, $p < 0.01$.

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