abcam

ab246715

Alexa Fluor® 647 Anti-LEF1 antibody [EPR2029Y]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR2029Y
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	1/100
Notes	This product gave a positive signal in HT-29 fixed with 100% methanol (5 min).

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/5000
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Expected

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

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	Blue Ice
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, Stable for 12 months at -20°C, Store in the dark

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.

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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

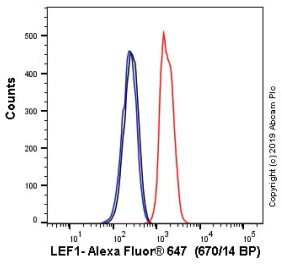
We do not recommend this combination. It is not covered by our product promise.

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.

3 product images



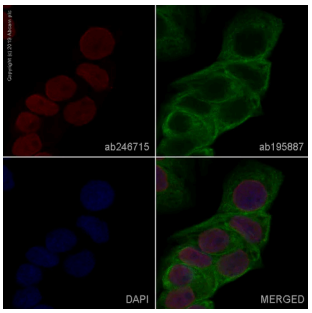
Flow Cytometry (Intracellular) - Alexa Fluor® 647 Anti-LEF1 antibody [EPR2029Y] (ab246715)

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

Overlay histogram showing Jurkat cells stained with ab246715 (red line). The cells were fixed with 80 % methanol (5 min) and then permeabilized with 0.1 % PBS-Triton X-100 for 15 min. The cells were incubated in 1x PBS containing 10 % normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab246715) (1x 10^6 in 100µl at 0.01 µg/ml (1/50000)) for 30 min at 22°C.

Isotype control antibody (black line) was Rabbit IgG (monoclonal) Alexa Fluor® 647 (ab199093) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

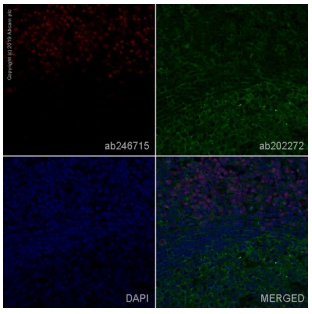
Acquisition of >5,000 events were collected using a 40 mW Red laser (640nm) and 670/14 bandpass filter.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-LEF1 antibody [EPR2029Y] (ab246715)

LEF1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-LEF1 antibody

ab246715 staining LEF1 in HT-29 cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab246715 at 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Alexa Fluor® 647 Anti-LEF1 antibody [EPR2029Y] (ab246715)

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

IHC image of LEF1 staining in a section of formalin-fixed paraffin-embedded normal human tonsil*.
The section was pre-treated using heat mediated antigen retrieval with Tris/EDTA buffer (pH9, epitope retrieval solution 2) for 20mins, performed on a Leica BOND™. Non-specific protein-protein interactions were then blocked in TBS containing 0.025% (v/v) Triton X-100, 0.3M (w/v) glycine and 1% (w/v) BSA for 1h at room temperature. The section was then incubated overnight at +4°C in TBS containing 0.025% (v/v) Triton X-100 and 1% (w/v) BSA with ab246715 at 1/100 dilution (shown in red) and counterstained using ab202272, Rabbit monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in green). Nuclear DNA was labeled with DAPI (shown in blue). The section was then mounted using Fluoromount®.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.

*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.

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