abcam

ab222102

Anti-IL-4I1/LAO antibody [EPR22070]

Anti-IL-4I1/LAO antibody [EPR22070] (ab222102) is a rabbit monoclonal antibody detecting IL-4I1/LAO in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 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	EPR22070
Purification technique	Affinity purification Protein A
Specificity	This antibody fails to detect endogenous natural samples in WB.
Concentration	0.617 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	IL-4I1/LAO protein is expressed in limited samples. It is a secreted enzyme physiologically produced by antigen presenting cells of the myeloid and B cell lineages and T helper type (Th) 17 cells. Please refer to PMID: 29206151).

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/600
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.

Target data

See full target information IL4I1

Function	Secreted L-amino-acid oxidase that acts as a key immunoregulator (PubMed:17356132, PubMed:32818467, PubMed:32866000). Has preference for L-aromatic amino acids: converts phenylalanine (Phe), tyrosine (Tyr) and tryptophan (Trp) to phenylpyruvic acid (PP), hydroxyphenylpyruvic acid (HPP), and indole-3-pyruvic acid (I3P), respectively (PubMed:17356132, PubMed:32818467, PubMed:32866000). Also has weak L-arginine oxidase activity (PubMed:26673964). Acts as a negative regulator of anti-tumor immunity by mediating Trp degradation via an indole pyruvate pathway that activates the transcription factor AHR (PubMed:32818467, PubMed:32866000). IL4I1-mediated Trp catabolism generates I3P, giving rise to indole metabolites (indole-3-acetic acid (IAA) and indole-3-aldehyde (I3A)) and kynurenic acid, which act as ligands for AHR, a ligand-activated transcription factor that plays important roles in immunity and cancer (PubMed:32818467, PubMed:32866000). AHR activation by indoles following IL4I1-mediated Trp degradation enhances tumor progression by promoting cancer cell motility and suppressing adaptive immunity (PubMed:32818467). Also has an immunoregulatory function in some immune cells, probably by mediating Trp degradation and promoting downstream AHR activation: inhibits T-cell activation and proliferation, promotes the differentiation of naive CD4(+) T-cells into FOXP3(+) regulatory T-cells (Treg) and regulates the development and function of B-cells (PubMed:17356132, PubMed:25446972, PubMed:25778793, PubMed:28891065). Also regulates M2 macrophage polarization by inhibiting T-cell activation (By similarity). Also has antibacterial properties by inhibiting growth of Gram negative and Gram positive bacteria through the production of NH4(+) and H2O2 (PubMed:23355881).

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

What is this antibody validated in?
Anti-IL-4I1/LAO antibody [EPR22070] (ab222102) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of IL-4I1/LAO?
Anti-IL-4I1/LAO [EPR22070] (ab222102) specifically detects a band for IL-4I1/LAO (UniProt: Q96RQ9) at a molecular weight of 63kDa.

Other related products
We have a range of other formats of antibody clone [EPR22070] also available for your convenience: ab222102, Carrier free - ab237783

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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

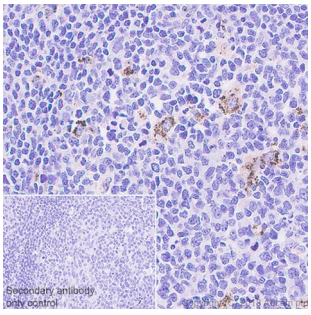
We do not recommend this combination. It is not covered by our product promise.

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



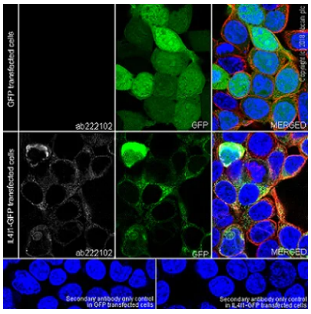
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

IL-4I1/LAO Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-IL-4I1/LAO antibody

Immunohistochemical analysis of paraffin-embedded human tonsil tissue stained for IL-4I1/LAO with ab222102 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Granular cytoplasmic staining in macrophages of human tonsil (PMID: 17356132; PMID: 19436310) is observed. Counterstained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

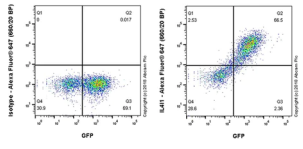
Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

IL-4I1/LAO Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-IL-4I1/LAO antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilzed HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells labeling IL-4I1/LAO (white) with ab222102 at 1/50 dilution, followed by ab150079 AlexaFluor®647 Goat anti-Rabbit secondary at 1/1000 dilution. Confocal image showing cytoplasmic staining in HEK-293T cells transfected with GFP-tagged IL-4I1/LAO expression vector. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ab150079 AlexaFluor®647 Goat anti-Rabbit secondary at 1/1000 dilution.

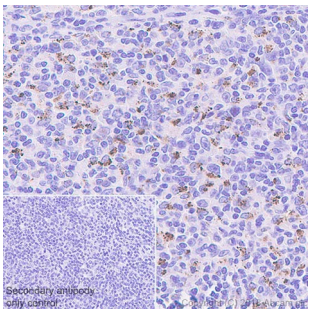


Flow Cytometry (Intracellular) - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

IL-4I1/LAO Flow Cytometry (Intracellular) staining using rabbit Anti-IL-4I1/LAO antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanolpermeabilized HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with IL-4I1/LAO expression vector containing a myc-GFP-tag labeling IL-4I1/LAO with

ab222102at 1/500 dilution (Right) compared to Rabbit monoclonal IgG (ab172730) (Left) isotype control. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/2000 dilution.

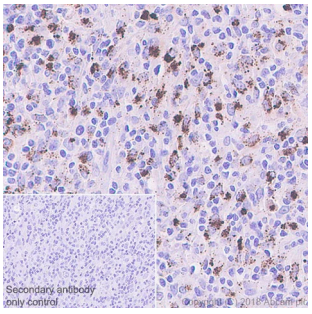


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

IL-4I1/LAO Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-IL-4I1/LAO antibody

Immunohistochemical analysis of paraffin-embedded human difuse large B-cell lymphoma tissue stained for IL-4I1/LAO with ab222102 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Granular cytoplasmic staining in human diffuse large B-cell lymphoma (PMID: 19436310) is observed. Counterstained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

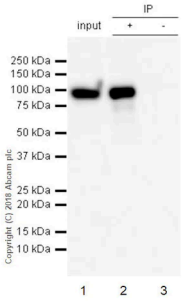


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

IL-4I1/LAO Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-IL-4I1/LAO antibody

Immunohistochemical analysis of paraffin-embedded human Hodgkin's lymphoma tissue stained for IL-4I1/LAO with ab222102 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) ready to use. Granular cytoplasmic staining in human Hodgkin's lymphoma (PMID: 19436310) is observed. Counterstained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) ready to use.

Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

IL-4I1/LAO was immunoprecipitated from 0.35mg HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with IL-4I1/LAO expression vector containing a myc-GFP-tag whole cell lysate with ab222102 at 1/30 dilution. Western blot was perfromed from the immunoprecipitate using ab222102 at 1/1000 dilution, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1/5000 dilution.
Lane 1: HEK-293T transfected with IL-4I1/LAO expression vector containing a myc-GFP-tag whole cell lysate 10µg (Input).

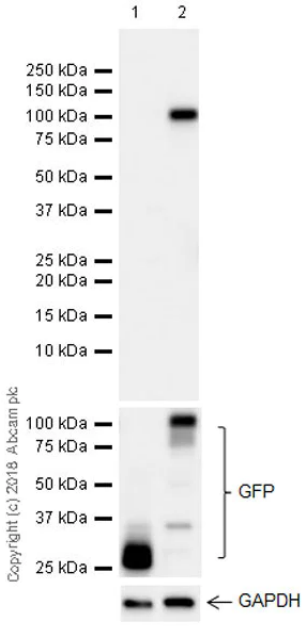
Lane 2: ab222102 IP in HEK-293 transfected with IL-4I1/LAO expression vector containing a myc-GFP-tag whole cell lysate (+).

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab222102 in HEK-293T transfected with IL-4I1/LAO expression vector containing a myc-GFP-tag whole cell lysate (-).

Blocking and dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 1 seconds.
All lanes:
Immunoprecipitation - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

Predicted band size: 63 kDa

Observed band size: 100 kDa



Western blot - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102) at 1/1000 dilution

Lane 1:
HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) transfected with an empty vector (vector control), containing a myc-GFP-tag, whole cell lysate at 10 µg

Lane 2:
HEK-293T transfected with IL-4I1/LAO expression vector containing a myc-GFP-tag, whole cell lysate at 10 µg

Secondary

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

Predicted band size: 63 kDa

Observed band size: 100 kDa

Exposure time: 6s

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