abcam

ab237783

Anti-IL-4I1/LAO antibody [EPR22070] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22070
Purification technique	Affinity purification Protein A
Specificity	This antibody fails to detect endogenous natural samples in WB.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human

Dilution info	-
Notes	-

WB

Expected

Species	Human
Dilution info	-
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	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab237783 is the carrier-free version of ab222102.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

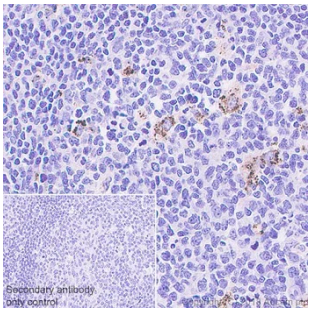
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images



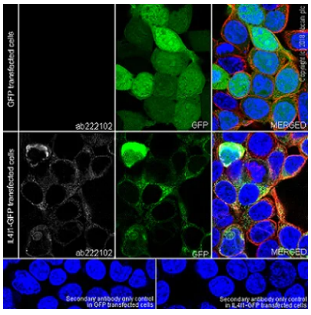
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-4I1/LAO antibody [EPR22070] - BSA and Azide free (ab237783)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222102).

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

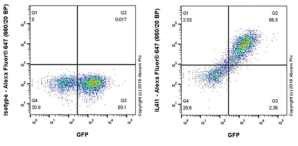


Immunocytochemistry/ Immunofluorescence - Anti-IL-4I1/LAO antibody [EPR22070] - BSA and Azide free (ab237783)

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.

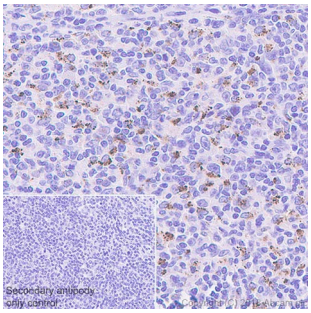
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222102).



Flow Cytometry (Intracellular) - Anti-IL-4I1/LAO antibody [EPR22070] - BSA and Azide free (ab237783)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222102).



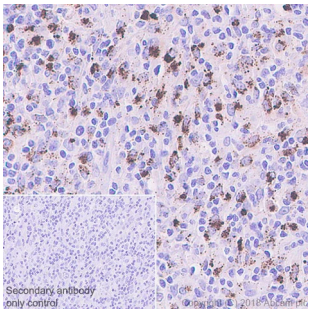
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-4I1/LAO antibody [EPR22070] - BSA and Azide free (ab237783)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222102).

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



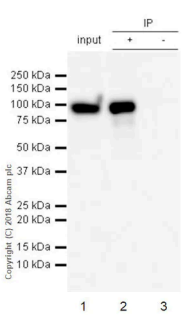
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IL-4I1/LAO antibody [EPR22070] - BSA and Azide free (ab237783)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222102).

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] - BSA and Azide free (ab237783)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab222102).
All lanes:
Immunoprecipitation - Anti-IL-4I1/LAO antibody [EPR22070] (ab222102)

Predicted band size: 63 kDa

Observed band size: 100 kDa

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