abcam

ab319164

Anti-YKL-40/CHI3L1 antibody [RM1204]

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	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM1204
Purification technique	Affinity purification Protein A
Concentration	0.505 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CHI3L1

Function	Carbohydrate-binding lectin with a preference for chitin. Has no chitinase activity. May play a role in tissue remodeling and in the capacity of cells to respond to and cope with changes in their environment. Plays a role in T-helper cell type 2 (Th2) inflammatory response and IL-13-induced inflammation, regulating allergen sensitization, inflammatory cell apoptosis, dendritic cell accumulation and M2 macrophage differentiation. Facilitates invasion of pathogenic enteric bacteria into colonic mucosa and lymphoid organs. Mediates activation of AKT1 signaling pathway and subsequent IL8 production in colonic epithelial cells. Regulates

antibacterial responses in lung by contributing to macrophage bacterial killing, controlling bacterial dissemination and augmenting host tolerance. Also regulates hyperoxia-induced injury, inflammation and epithelial apoptosis in lung.

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

Notes

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	YKL-40 also known as chitinase-3-like protein 1 (CHI3L1) is a glycoprotein with a molecular weight of approximately 40 kDa. Scientists often study it for its roles in inflammatory processes. It has expressions in numerous tissues including liver cartilage and the central nervous system. The CHI3L1 protein does not possess

	chitinase activity unlike other members of the chitinase family yet it interacts with various ligands to influence cellular behavior.
Biological function summary	YKL-40 plays significant roles in tissue remodeling and inflammation. It does not form part of a larger complex by itself but influences several cellular processes. This protein affects cell proliferation migration and survival making it involved in both normal physiological processes and pathological conditions. CHI3L1 also exhibits a connection to the immune response where it modulates macrophage activity and interacts with other immune cells.
Pathways	YKL-40 is integral to the inflammatory and extracellular matrix pathways. It associates with proteins such as interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-α) influencing signaling cascades that modulate inflammation. Through these interactions CHI3L1 becomes a mediator of connective tissue metabolism and immune reactions in various pathophysiological states.
Associated diseases and disorders	YKL-40 shows strong links to conditions like osteoarthritis and certain cancers. In osteoarthritis elevated levels of CHI3L1 reflect increased cartilage degradation while in oncology it correlates with tumor angiogenesis and metastasis potential. Its connection with proteins such as matrix metalloproteinases highlights its role in disease mechanisms highlighting its potential as a biomarker for early detection and disease progression monitoring.

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

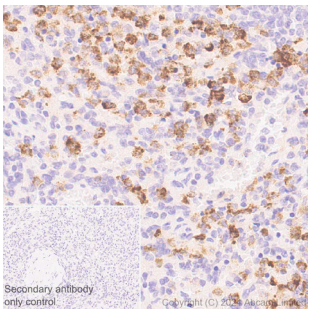
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

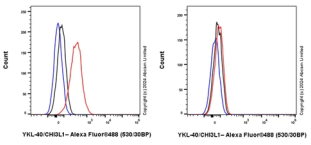
Immunohistochemical analysis of paraffin-embedded Human spleen tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human spleen.The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

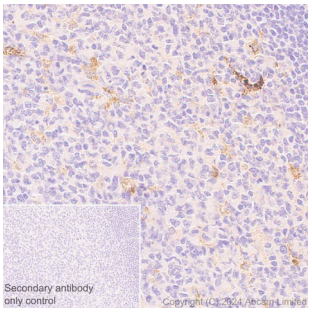
Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins



Flow Cytometry (Intracellular) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized THP-1 (human monocytic leukemia monocyte) (Left) / CHI3L1 KO THP-1(FR090372) (Right) cells labelling YKL-40/CHI3L1 with ab319164 at 1/500 dilution (0.1ug) (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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

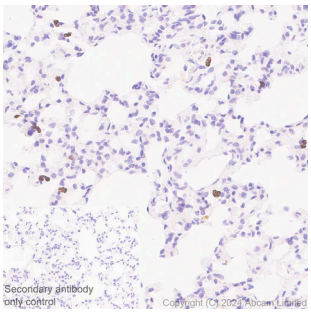
Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human tonsil. The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

Immunohistochemical analysis of paraffin-embedded Rat lung tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

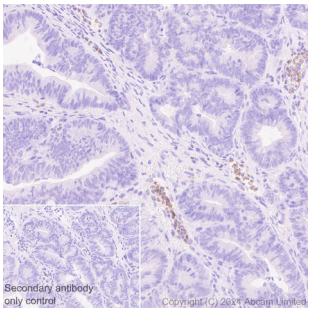
Positive staining on immune cells of rat lung. The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 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

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

Immunohistochemical analysis of paraffin-embedded Mouse colon cancer tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

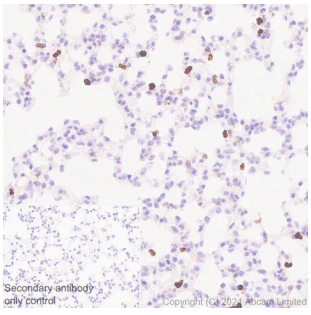
Positive staining on immune cells of mouse colon cancer. The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

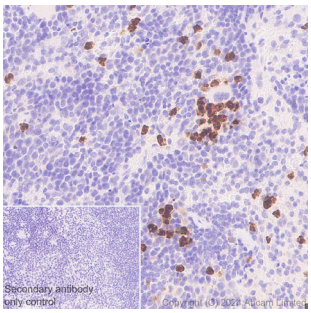
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on immune cells of mouse lung. The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

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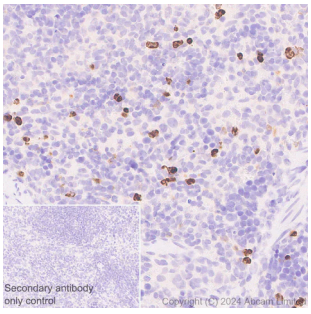
Immunohistochemical analysis of paraffin-embedded Mouse spleen tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse spleen. The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

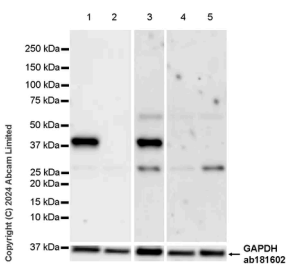
Immunohistochemical analysis of paraffin-embedded Rat spleen tissue labeling YKL-40/CHI3L1 with ab319164 at 1/500 (1.01 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat spleen. The section was incubated with ab319164 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

MSD279 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



Western blot - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

Negative control: 293T, Jurkat (PMID: 19767768, PMID: 16472595).

The molecular weight observed is consistent with what has been described in the literature (PMID: 19414556).

The identity of the lower MW band at approximately 25 kDa (in lane 3 and 5) is unknown.

In Western blot, ab319164 was shown to bind specifically to CHI3L1. Target of interest was observed at 43 kDa in wild-type THP-1 cell lysates (lane 1) with no signal observed at this size in CHI3L1 knockout cell line (lane 2, knockout cell line ab280038).

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

Exposure time: lane 1-2: 25 seconds, lane 3-5: 125 seconds

Blocking and dilution buffer and concentration: 5% NFDM/TBST
All lanes:
Western blot - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164) at 1/1000 dilution

Lane 1:
Wide-type THP-1 (human monocytic leukemia monocyte) whole cell lysate at 20 µg

Lane 2:
CHI3L1 knockout THP-1 whole cell lysate at 20 µg

Lane 3:
U-87 MG (human glioblastoma-astrocytoma epithelial cell) whole cell lysate at 20 µg

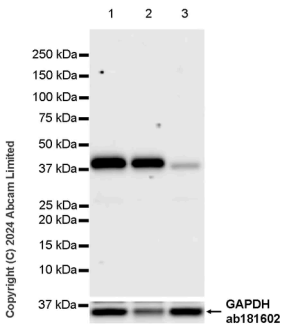
Lane 4:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

Lane 5:
Jurkat (human T cell leukemia T lymphocyte from peripheral blood) whole cell lysate at 20 µg

Secondary

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

Observed band size: 43 kDa, 36 kDa



Western blot - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164)

Low expression tissue: liver (PMID: 31250532).

The molecular weight observed is consistent with what has been described in the literature (PMID: 19414556).

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

Blocking and dilution buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-YKL-40/CHI3L1 antibody [RM1204] (ab319164) at 1/1000 dilution

Lane 1:
Mouse spleen tissue lysate at 20 µg

Lane 2:
Mouse lung tissue lysate at 20 µg

Lane 3:
Mouse liver tissue lysate at 20 µg

Secondary

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

Observed band size: 43 kDa, 36 kDa

Exposure time: 37s

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