abcam

ab228977

Anti-SIGIRR antibody [EPR22438-93]

Recombinant | RabMAb

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	EPR22438-93
Purification technique	Affinity purification Protein A
Concentration	0.5225 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/600
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Target data

See full target information SIGIRR

Function	Acts as a negative regulator of the Toll-like and IL-1R receptor signaling pathways. Attenuates the recruitment of receptor-proximal signaling components to the TLR4 receptor, probably through an TIR-TIR domain interaction with TLR4. Through its extracellular domain interferes with the heterodimerization of Il1R1 and IL1RAP.

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

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	SIGIRR also known as Single Immunoglobulin IL-1 Related Receptor or TIR8 is a transmembrane protein approximately 410 amino acids in length translating to a mass of about 45 kDa. It is expressed in various tissues with higher levels seen in the kidney liver lung and immune cells. SIGIRR is part of the Toll-like receptor (TLR) and interleukin-1 receptor (IL-1R) family acting as a negative regulator by interfering with signaling pathways usually triggered by these receptors.
Biological function summary	SIGIRR modulates immune responses by dampening inflammation and maintaining homeostasis in immune-related pathways. SIGIRR functions as a decoy receptor binding ligands without initiating a signaling cascade which effectively reduces the immune response. It does not work alone; it is part of larger receptor complexes within the TLR and IL-1R family where it can inhibit the signaling of other family members like TLR4 and IL-1R1 thereby controlling their activity and preventing excessive inflammation.
Pathways	SIGIRR participates in both the Toll-like receptor and interleukin-1 receptor pathways. It interacts with adaptor proteins such as MyD88 to modulate the downstream signaling cascade that involves NF-kB activation a central transcription factor in immune response. By doing so it keeps the inflammation response in check connecting to related proteins within these pathways that include IL-1R1 and TLR4 ultimately regulating key pro-inflammatory processes.

Associated diseases and disorders	Multiple studies link SIGIRR to conditions characterized by chronic inflammation such as inflammatory bowel disease (IBD) and rheumatoid arthritis (RA). Animals with SIGIRR deficiency tend to show increased susceptibility to these diseases implicating its role in disease modulation. Additionally SIGIRR's interaction with IL-1R1 highlights its potential involvement in autoimmune diseases where dysregulated immune regulation is a common theme. Understanding its function in these contexts can provide insights into therapeutic approaches for inflammatory and autoimmune conditions.

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

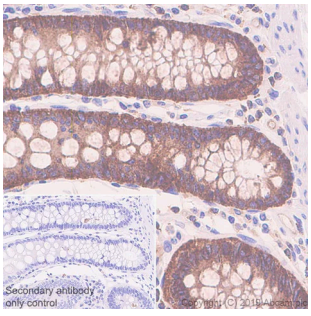
We do not recommend this combination. It is not covered by our product promise.

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



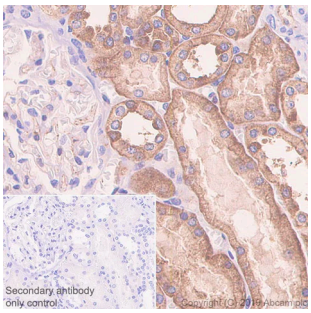
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

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

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling SIGIRR with ab228977 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human colon (PMID:21077278) The section was incubated with ab228977 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

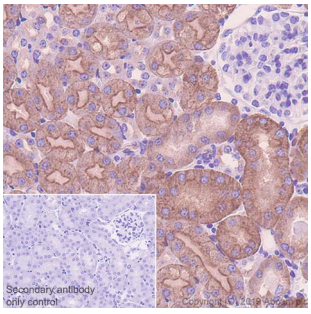


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

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

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling SIGIRR with ab228977 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human kidney (PMID:14715412, 12925853) The section was incubated with ab228977 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

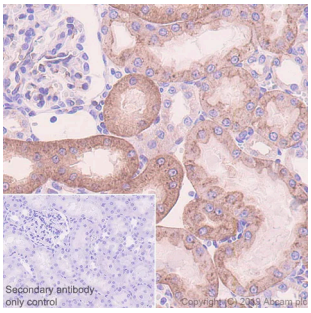
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling SIGIRR with ab228977 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse kidney (PMID:14715412, 12925853). The section was incubated with ab228977 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

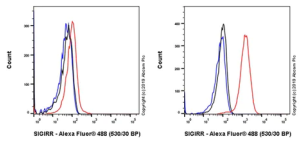


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

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

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling SIGIRR with ab228977 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on rat kidney (PMID:14715412, 12925853). The section was incubated with ab228977 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

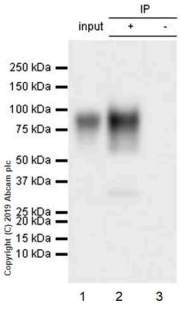


Flow Cytometry (Intracellular) - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized MEF (mouse embryonic fibroblast (immortalized)) (Left) / Hepa1-6 (mouse hepatoma epithelial cell line) (Right) cells labelling SIGIRR with ab228977 at 1/600 dilution (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$^{ï¿½}$ 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

Negative control: MEF (PMID 12925853).



Immunoprecipitation - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

IGFBP5 was immunoprecipitated from 0.35 mg Hepa1-6 (mouse hepatoma epithelial cell line) whole cell lysate 10µg with ab254324 at 1/30 dilution. Western blot was performed on the immunoprecipitate using ab228977 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used as the secondary antibody at 1/5000 dilution.
Lane 1: Hepa1-6 (mouse hepatoma epithelial cell) whole cell lysate 10µg

Lane 2: ab254324 IP in Hepa1-6 whole cell lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab228977 in Hepa1-6 whole cell lysate.

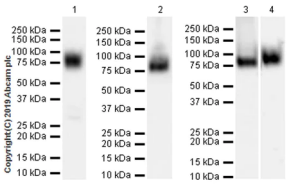
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

All lanes:
Immunoprecipitation - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

Predicted band size: 46 kDa

Observed band size: 80 kDa



Western blot - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

The different apparent molecular weights are due to different levels of glycosylation. (PMID: 26344057).
Exposure times.
Lane 1: 48 seconds; Lane 2: 7.75 seconds; Lane 3: 70 seconds; Lane 4: 3 minutes.

Blocking/diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Western blot - Anti-SIGIRR antibody [EPR22438-93] (ab228977) at 1/1000 dilution

Lane 1:
Human fetal kidney tissue lysate at 20 µg

Lane 2:
Rat liver tissue lysate at 20 µg

Lane 3:
Mouse kidney tissue lysate at 20 µg

Lane 4:
Mouse spleen tissue lysate at 20 µg

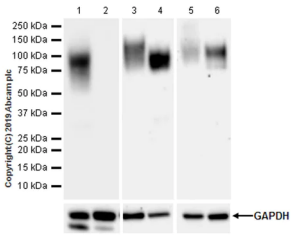
Secondary

Lane 1:
Western blot - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/1000 dilution

Lanes 2 - 4:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 46 kDa

Observed band size: 80 kDa



Western blot - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

The different apparent molecular weights are due to different levels of glycosylation. (PMID: 26344057).
Negative control: MEF (PMID 12925853)

Blocking/Diluting buffer and concentration: 5% NFDM/TBST.

Exposure times.

Lane 1: 15 seconds; Lanes 2-6: 3 minutes.

All lanes:
Western blot - Anti-SIGIRR antibody [EPR22438-93] (ab228977) at 1/1000 dilution

Lanes 1 and 5:
Hepa1-6 (mouse hepatoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
MEF (immortalized mouse embryonic fibroblasts), whole cell lysate at 20 µg

Lane 3:
Mouse stomach tissue lysate at 20 µg

Lane 4:
Mouse pancreas tissue lysate at 20 µg

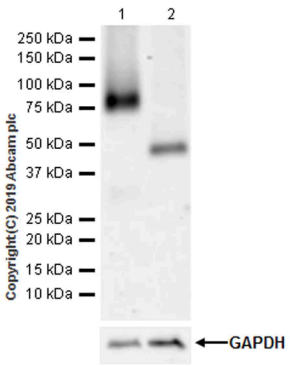
Lane 6:
Rat stomach tissue lysate at 20 µg

Secondary

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

Predicted band size: 46 kDa

Observed band size: 80 kDa



Western blot - Anti-SIGIRR antibody [EPR22438-93] (ab228977)

SIGIRR Western blot staining using rabbit Anti-SIGIRR antibody

The molecular weight observed is consistent with what has been described in the literature (PMID: 26344057).
Blocking/Diluting buffer and concentration: 5% NFDM/TBST

Exposure time: 92 seconds.

All lanes:
Western blot - Anti-SIGIRR antibody [EPR22438-93] (ab228977) at 1/1000 dilution

Lane 1:
Mouse kidney tissue lysate at 20 µg

Lane 2:
Mouse kidney treated lysate treated with with PNGase F at 20 µg

Secondary

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

Predicted band size: 46 kDa

Observed band size: 46 kDa, 80 kDa

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