abcam

ab249491

Anti-TRC40 antibody [EPR11423] - 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	EPR11423
Purification technique	Affinity purification

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information GET3

Function	ATPase required for the post-translational delivery of tail-anchored (TA) proteins to the endoplasmic reticulum (PubMed:17382883). Recognizes and selectively binds the transmembrane domain of TA proteins in the cytosol. This complex then targets to the endoplasmic reticulum by membrane-bound receptors GET1/WRB and CAMLG/GET2, where the tail-anchored protein is released for insertion. This process is regulated by ATP binding and hydrolysis. ATP binding drives the homodimer towards the closed dimer state, facilitating recognition of newly synthesized TA membrane proteins. ATP hydrolysis is required for insertion. Subsequently, the homodimer reverts towards the open dimer state, lowering its affinity for the GET1-CAMLG receptor, and returning it to the cytosol to initiate a new round of targeting. May be involved in insulin signaling.

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

ab249491 is the carrier-free version of ab169539.

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.

Supplementary info

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

Activity summary	TRC40 also known as the transmembrane domain recognition complex subunit is a 41 kDa protein important for targeting and insertion of tail-anchored proteins into the endoplasmic reticulum membrane. It is well-expressed in human tissue especially those with high secretory or membrane protein activity. The protein

	interacts closely with the cytosolic components and serves as an important part of the guiding mechanism for specific proteins important for cellular function.
Biological function summary	The targeting process involves TRC40 interacting with several tail-anchored proteins. It forms part of a delivery complex required for efficient insertion of these proteins into the correct cellular locations. TRC40 ensures accurate membrane localization firmly supporting cellular physiology and protein homeostasis. This activity is essential for maintaining the protein synthesis balance within the endoplasmic reticulum influencing many cellular metabolic processes.
Pathways	TRC40 operates in the endoplasmic reticulum-associated degradation (ERAD) and secretory pathways. It cooperates with proteins like BAG6 and the Get3 complex acting as routing machinery for tail-anchored protein targeting. These pathways play a critical role in maintaining cellular protein composition by sorting membrane proteins essential for cellular health and stress responses.
Associated diseases and disorders	TRC40 shows a significant role in neurodegenerative diseases and metabolic syndromes. Misregulation or dysfunction of its targeting process can disrupt protein homeostasis linking it to disorders such as Alzheimer's disease. The ERAD pathway involving TRC40 interacts with proteins like APP and presenilin contributing to the progression of these neurodegenerative conditions. Insights into TRC40's function reveal potential therapeutic targets in tackling related diseases.

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

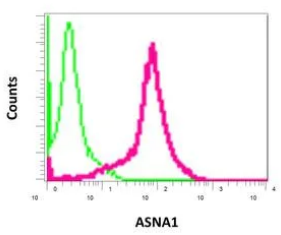
We do not recommend this combination. It is not covered by our product promise.

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:

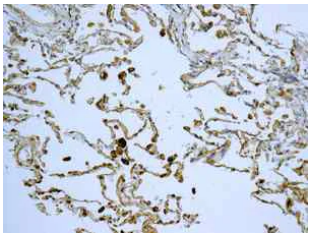
6 product images



Flow Cytometry (Intracellular) - Anti-TRC40 antibody [EPR11423] - BSA and Azide free (ab249491)

TRC40 Flow Cytometry (Intracellular) staining using rabbit Anti-TRC40 antibody

This data was developed using ab169539, the same antibody clone in a different buffer formulation.
Intracellular flow cytometrical analysis of permeabilized 293T cells with ab169539 antibody at a dilution of 1/10 (red) or a rabbit IgG (negative) (green).

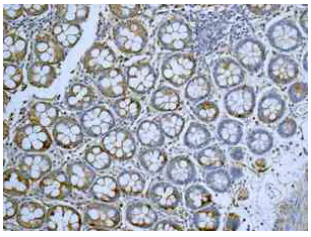


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRC40 antibody [EPR11423] - BSA and Azide free (ab249491)

TRC40 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TRC40 antibody

This data was developed using ab169539, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded Human lung tissue labeling TRC40 with ab169539 antibody at 1/50.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

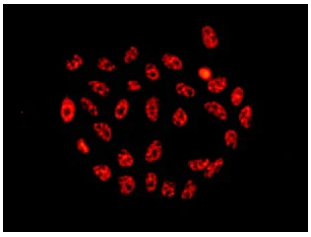


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TRC40 antibody [EPR11423] - BSA and Azide free (ab249491)

TRC40 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TRC40 antibody

This data was developed using ab169539, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin embedded Human colon tissue labeling TRC40 with ab169539 antibody at 1/50.

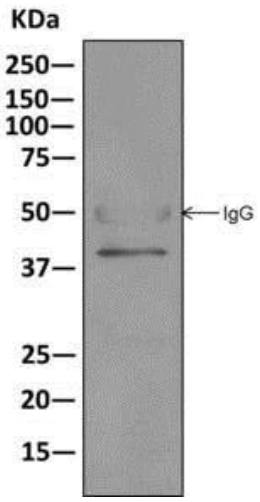
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-TRC40 antibody [EPR11423] - BSA and Azide free (ab249491)

TRC40 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-TRC40 antibody

This data was developed using ab169539, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of HeLa cells labeling TRC40 with ab169539 at 1/250.

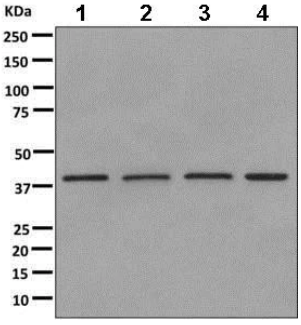


Immunoprecipitation - Anti-TRC40 antibody [EPR11423] - BSA and Azide free (ab249491)

This data was developed using ab169539, the same antibody clone in a different buffer formulation.
Immunoprecipitation. ab169539 at 1/10000 staining TRC40 in 293T cell lysate immunoprecipitated using ab169539 at 1/10. Predicted band size : 39 kDa.

All lanes:
Immunoprecipitation - Anti-TRC40 antibody [EPR11423] (ab169539)

Predicted band size: 39 kDa



Western blot - Anti-TRC40 antibody [EPR11423] - BSA and Azide free (ab249491)

This data was developed using ab169539, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-TRC40 antibody [EPR11423] (ab169539) at 1/10000 dilution

Lane 1:
Fetal brain lysate at 10 µg

Lane 2:
Fetal kidney lysate at 10 µg

Lane 3:
HeLa lysate at 10 µg

Lane 4:
293T lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 39 kDa

Observed band size: 39 kDa

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