abcam

ab169547

Anti-TIAL1 antibody [EPR11323(B)]

Recombinant | RabMAb | KO Validated

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	EPR11323(B)
Purification technique	Affinity purification Protein A
Concentration	0.8 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Nucleolysin TIAR

Function	RNA-binding protein involved in alternative pre-RNA splicing and in cytoplasmic stress granules formation (PubMed:10613902, PubMed:1326761, PubMed:17488725, PubMed:8576255). Shows a preference for uridine-rich RNAs (PubMed:8576255). Activates splicing of alternative exons with weak 5' splice sites followed by a U-rich stretch on its own pre-mRNA and on TIA1 mRNA (By similarity). Promotes the inclusion of TIA1 exon 5 to give rise to the long isoform (isoform a) of TIA1 (PubMed:17488725). Acts downstream of the stress-induced phosphorylation of EIF2S1/EIF2A to promote the recruitment of untranslated mRNAs to cytoplasmic stress granules (SG) (PubMed:10613902). Possesses nucleolytic activity against cytotoxic lymphocyte target cells (PubMed:1326761). May be involved in apoptosis (PubMed:1326761).

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

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	TIAL1 also known as TIA-1 related protein is a 42 kDa protein that plays a mechanical role in RNA processing. It belongs to the RNA-binding protein family and contains three RNA recognition motifs and a glutamine-rich domain. TIAL1 is widely expressed in various tissues including the spleen thymus and brain. It influences the regulation of mRNA stability and translation specifically recognizing and binding to U-rich elements in the 3′-untranslated regions of target mRNAs.
Biological function summary	TIAL1 influences gene expression by associating with stress granules cytoplasmic aggregates formed in response to cellular stress. This association helps inhibit translation initiation modulating the cellular stress response. TIAL1 is part of a complex with other RNA-binding proteins that integrate signaling events and manage mRNA turnover and stress granule dynamics. Through this interaction it affects apoptosis and contributes to cell survival under stress conditions.
Pathways	Studies demonstrate that TIAL1 plays a role in the apoptotic signaling pathway and the stress response pathway. By interacting with proteins such as eIF2α kinase TIAL1 helps mediate the cellular response to environmental and oxidative stress. These pathways maintain cellular homeostasis and TIAL1 assists in regulating translation during stress ensuring proper cell function.
Associated diseases and disorders	TIAL1 has relevance in neurodegenerative diseases like Alzheimer's and amyotrophic lateral sclerosis (ALS). The formation of stress granules influenced by TIAL1 is connected to the pathological misfolding of proteins implicated by related proteins such as TDP-43 and FUS. Faulty regulation of these processes may lead to the progression of neurodegenerative conditions highlighting TIAL1's significant role in their development.

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

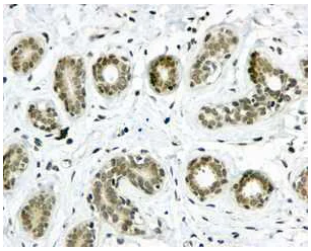
We do not recommend this combination. It is not covered by our product promise.

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.

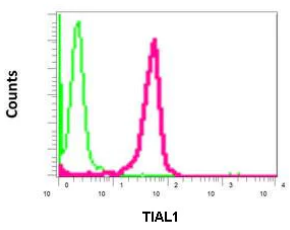
5 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TIAL1 antibody [EPR11323(B)] (ab169547)

TIAL1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TIAL1 antibody

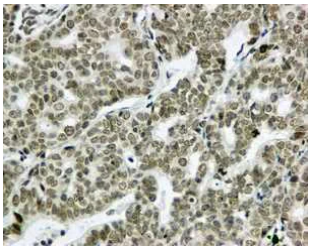
Immunohistochemical analysis of paraffin-embedded Human breast tissue labeling TIAL1 with ab169547 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-TIAL1 antibody [EPR11323(B)] (ab169547)

TIAL1 Flow Cytometry (Intracellular) staining using rabbit Anti-TIAL1 antibody

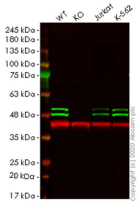
Intracellular flow cytometric analysis of permeabilized K562 cells labeling TIAL1 with ab169547 at 1/100 dilution (red) compared to a rabbit IgG negative control (green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TIAL1 antibody [EPR11323(B)] (ab169547)

TIAL1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-TIAL1 antibody

Immunohistochemical analysis of paraffin-embedded Human ovarian carcinoma tissue labeling TIAL1 with ab169547 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-TIAL1 antibody [EPR11323(B)] (ab169547)

TIAL1 Western blot staining using rabbit Anti-TIAL1 antibody

Lanes 1-4: Merged signal (red and green). Green - ab169547 observed at 49 kDa. Red - loading control ab8245 observed at 36 kDa.
ab169547 Anti-TIAL1 antibody [EPR11323(B)] was shown to specifically react with TIAL1 in wild-type HeLa cells. Loss of signal was observed when knockout sample ab257743 was used. Wild-type and TIAL1 knockout samples were subjected to SDS-PAGE. ab169547 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-TIAL1 antibody [EPR11323(B)] (ab169547) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human TIAL1 knockout HeLa cell lysate (ab257743) at 20 µg

Lane 3:
Jurkat cell lysate at 20 µg

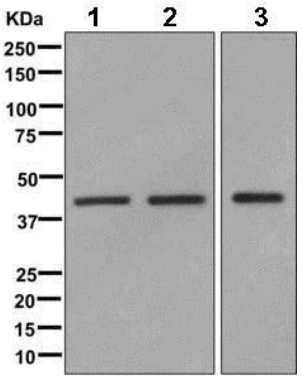
Lane 4:
K-562 cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 41 kDa

Observed band size: 49 kDa



Western blot - Anti-TIAL1 antibody [EPR11323(B)] (ab169547)

All lanes:
Western blot - Anti-TIAL1 antibody [EPR11323(B)] (ab169547) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
K562 cell lysate at 10 µg

Secondary

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

Predicted band size: 41 kDa

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