abcam

ab249497

# Anti-TIAL1 antibody [EPR11323(B)] - BSA and Azide free

Recombinant | RabMAb | KO Validated

## 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** | EPR11323(B) |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.996 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## 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** | - |
| **Notes** | - |

### Expected

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

## IHC-P

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

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

## Notes

ab249497 is the carrier-free version of ab169547.

**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** | 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**

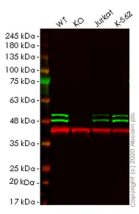
We do not recommend this combination. It is not covered by our product promise.

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.

## 1 product image




### Western blot - Anti-TIAL1 antibody [EPR11323(B)] - BSA and Azide free (ab249497)

TIAL1 Western blot staining using rabbit Anti-TIAL1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab169547).
**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

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