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Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody
Mouse Monoclonal Antibody
Catalog # AH13538

Specification

Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody - Product Information

Application	**WB, IF, FC**
Primary Accession	P31483
Other Accession	413123
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse / IgG2b**
Calculated MW	**42963**

Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody - Additional Information

Gene ID 7072

Other Names
Cytotoxic granule associated RNA binding protein 1; mTIA-1; Nucleolysin TIA1 isoform p40; p40-TIA-1; RNA binding protein TIA1; T-cell-restricted intracellular antigen-1 (TIA1); TIA-1; TIA1; TIA1 cytotoxic granule associated RNA binding protein; TIAL1; TIAR; WDM

Application Note
WB~~1:1000<br \>IF~~1:50~200<br \>FC~~1:10~50

Format
200ug/ml of Ab purified from rabbit anti-serum by Protein A. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA at 1.0mg/ml.

Storage
Store at 2 to 8°C.Antibody is stable for 24 months.

Precautions
Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody - Protein Information

Name TIA1

Function
RNA-binding protein involved in the regulation of alternative pre-RNA splicing and mRNA translation by binding to uridine-rich (U- rich) RNA sequences (PubMed:11106748, PubMed:12486009, PubMed:<a

href="http://www.uniprot.org/citations/17488725" target="_blank">17488725, PubMed:8576255). Binds to U-rich sequences immediately downstream from a 5' splice sites in a uridine-rich small nuclear ribonucleoprotein (U snRNP)-dependent fashion, thereby modulating alternative pre-RNA splicing (PubMed:11106748, PubMed:8576255). Preferably binds to the U- rich IAS1 sequence in a U1 snRNP-dependent manner; this binding is optimal if a 5' splice site is adjacent to IAS1 (By similarity). Activates the use of heterologous 5' splice sites; the activation depends on the intron sequence downstream from the 5' splice site, with a preference for a downstream U-rich sequence (PubMed:11106748). By interacting with SNRPC/U1-C, promotes recruitment and binding of spliceosomal U1 snRNP to 5' splice sites followed by U-rich sequences, thereby facilitating atypical 5' splice site recognition by U1 snRNP (PubMed:11106748, PubMed:12486009, PubMed:17488725). Activates splicing of alternative exons with weak 5' splice sites followed by a U-rich stretch on its own pre-mRNA and on TIAR mRNA (By similarity). Acts as a modulator of alternative splicing for the apoptotic FAS receptor, thereby promoting apoptosis (PubMed:11106748, PubMed:17488725, PubMed:1934064). Binds to the 5' splice site region of FAS intron 5 to promote accumulation of transcripts that include exon 6 at the expense of transcripts in which exon 6 is skipped, thereby leading to the transcription of a membrane-bound apoptotic FAS receptor, which promotes apoptosis (PubMed:11106748, PubMed:17488725, PubMed:1934064). Binds to a conserved AU-rich cis element in COL2A1 intron 2 and modulates alternative splicing of COL2A1 exon 2 (PubMed:17580305). Also binds to the equivalent AT-rich element in COL2A1 genomic DNA, and may thereby be involved in the regulation of transcription (PubMed:17580305). Binds specifically to a polypyrimidine-rich controlling element (PCE) located between the weak 5' splice site and the intronic splicing silencer of CFTR mRNA to promote exon 9 inclusion, thereby antagonizing PTB1 and its role in exon skipping of CFTR exon 9 (PubMed:14966131). Involved in the repression of mRNA translation by binding to AU-rich elements (AREs) located in mRNA 3' untranslated regions (3' UTRs), including target ARE-bearing mRNAs encoding TNF and PTGS2 (By similarity). Also participates in the cellular response to environmental stress, by acting downstream of the stress-induced phosphorylation of EIF2S1/EIF2A to promote the recruitment of untranslated mRNAs to cytoplasmic stress granules (SGs), leading to stress-induced translational arrest (PubMed:10613902). Formation and recruitment to SGs is regulated by Zn(2+) (By similarity). Possesses nucleolytic activity against cytotoxic lymphocyte target cells (PubMed:1934064).

Cellular Location
Nucleus. Cytoplasm Cytoplasm, Stress granule Note=Accumulates in cytoplasmic stress granules (SG) following cellular damage (PubMed:10613902, PubMed:15371533). Recruitment to SG is induced by Zn(2+) (By similarity). {ECO:0000250|UniProtKB:P52912, ECO:0000269|PubMed:10613902, ECO:0000269|PubMed:15371533}

Tissue Location
Expressed in heart, small intestine, kidney, liver, lung, skeletal muscle, testes, pancreas, and ovary (at protein level)

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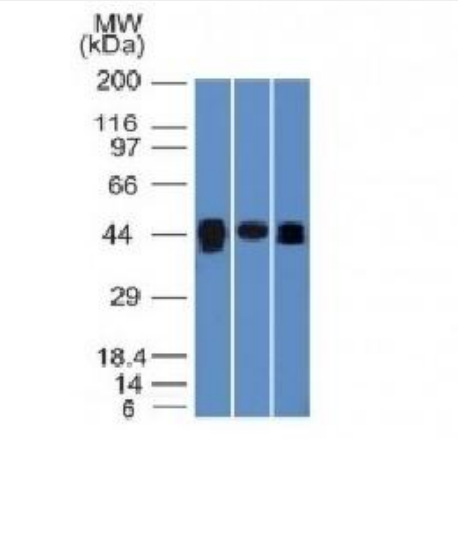
Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody - Images



Western Blot of HepG2, PC3 and HeLa Cell Lysates with TIA1 Monoclonal Antibody (TIA1/1313).

Anti-TIA1 (T-Cell-Restricted Intracellular Antigen-1) Antibody - Background

TIA-1 (T-cell intracytoplasmic antigen) is a cytoplasmic granule-associated protein, expressed in lymphocytes processing cytolytic potential. TIA-1 is a member of an RNA-binding protein family and possesses nucleolytic activity against cytotoxic lymphocyte (CTL) target cells. It has been suggested that this protein may be involved in the induction of apoptosis as it preferentially recognizes poly(A) homopolymers and induces DNA fragmentation in CTL targets. The major granule-associated species is a 15kDa protein thought to be derived from the carboxyl terminus of the 40kDa product by proteolytic processing. TIA1 antibody labels cytotoxic T cells and natural killer cells (NK cells). It is also expressed in T-cell lymphoma, large granular lymphocyte (LGL) leukemia and hairy cell leukemia. TIA1 expression in T-cell malignancies may help in differentiating LGL leukemia (high expression) from T-cell lymphocytosis and other T-cell diseases (low expression). TIA1 may also be used to label tumor-infiltrating lymphocytes in the study of immune response to malignancies.