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Anti-TIA1 Antibody

Catalog # ABO11503

Product Information

Application	WB
Primary Accession	P31483
Host	Rabbit
Reactivity	Human, Mouse
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Nucleolysin TIA-1 isoform p40(TIA1) detection. Tested with WB in Human;Mouse.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	7072
Other Names	Nucleolysin TIA-1 isoform p40, RNA-binding protein TIA-1, T-cell-restricted intracellular antigen-1, TIA-1, p40-TIA-1, TIA1
Calculated MW	42963
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse
Subcellular Localization	Cytoplasmic granule. Nucleus. Accumulates in cytoplasmic stress granules (SG) following cellular damage.
Source	Eukaryota
Protein Name	Nucleolysin TIA-1 isoform p40
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of human TIA1(98-110aa STQRSQDHFHVFV), identical to the related mouse sequence.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

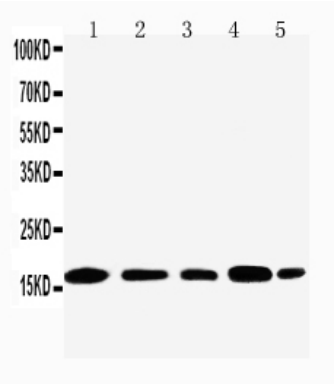
Protein Information

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: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)

Background

TIA1, also called WDM, encodes an RNA-binding protein involved in splicing regulation and translational repression. The product encoded by this gene is a member of a RNA-binding protein family and possesses nucleolytic activity against cytotoxic lymphocyte(CTL) target cells. By in situ hybridization, this gene is mapped to chromosome 2p13.3. 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 15-kDa protein that is though to be derived from the carboxyl terminus of the 40-kDa product by proteolytic processing.

Images



Anti-TIA1 antibody, ABO11503, Western blottingLane 1: JURKAT Cell LysateLane 2: RAJI Cell LysateLane 3: CEM Cell LysateLane 4: HT1080 Cell LysateLane 5: K562 Cell Lysate

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