For Research Use Only

TIA1 Polyclonal antibody

Catalog Number:12133-2-AP Featured Product 66 Publications

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Basic Information

Catalog Number:
12133-2-AP

Concentration:
700 μg/ml

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG2778

GenBank Accession Number:
BC015944

GeneID (NCBI):
7072

UNIPROT ID:
P31483

Full Name:
TIA1 cytotoxic granule-associated RNA binding protein

Calculated MW:
214 aa, 24 kDa, 43 kDa

Observed MW:
~40 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:500-1:3000
IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC 1:50-1:500
IF/ICC 1:50-1:500

Applications

Tested Applications:
WB, IHC, IF/ICC, FC (Intra), IP, ELISA

Cited Applications:
WB, IHC, IF, CoIP, ChIP, RIP

Species Specificity:
human, mouse, rat

Cited Species:
human, mouse, rat, pig, chicken

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : COLO 320 cells, Raji cells, mouse spleen tissue, mouse thymus tissue, Jurkat cells

IP : Jurkat cells,

IHC : human lymphoma tissue, mouse brain tissue

IF/ICC : L02 cells, HepG2 cells, HeLa cells, sodium arsenite treated HeLa cells

Background Information

TIA1, also named as p40-TIA-1, is involved in alternative pre-RNA splicing and regulation of mRNA translation by binding to AU-rich elements (AREs) located in mRNA 3' untranslated regions (3' UTRs). It possesses nucleolytic activity against cytotoxic lymphocyte target cells. TIA1 may be involved in apoptosis. Two isoforms of this protein exist - 41kDa and 42kDa. one of these was a missense variant (P362L) in TIA1. Similar to the ALS-related disease proteins TDP-43, hnRNPA1, and FUS, TIA1 is an RNA-binding protein containing a prionlike LCD and assembles into membrane-less organelles, including SGs. Postmortem neuropathology of five TIA1mutations carriers showed a consistent pathological signature with numerous round, hyaline, TAR DNA-binding protein 43 (TDP-43)-positive inclusions.TIA1mutations significantly increased the propensity of TIA1 protein to undergo phase transition. In live cells,TIA1mutations delayed stress granule (SG) disassembly and promoted the accumulation of non-dynamic SGs that harbored TDP-43. Moreover, TDP-43 in SGs became less mobile and insoluble.

Notable Publications

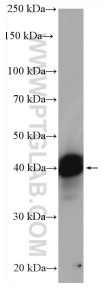
Author	Pubmed ID	Journal	Application
Tao Wang	36151083	Nat Commun	IF
Li Wang	36255739	Hum Mol Genet	WB
Lei Chang	34647267	J Mol Neurosci	WB,IF

Storage

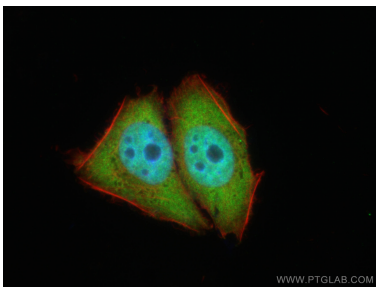
Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
T: 4006900926 E: Proteintech-CN@ptglab.com W: ptgcn.com

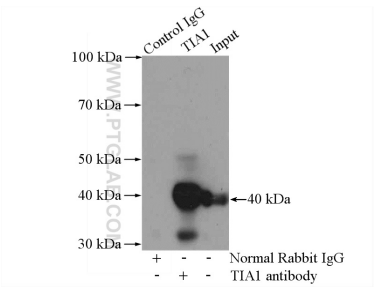
Selected Validation Data



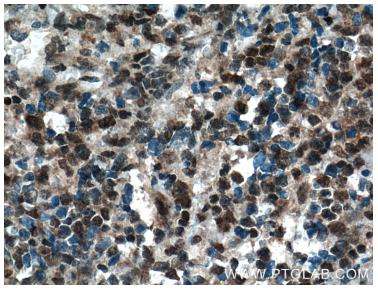
COLO 320 cells were subjected to SDS PAGE followed by western blot with 12133-2-AP (TIA1 antibody) at dilution of 1:1500 incubated at room temperature for 1.5 hours.



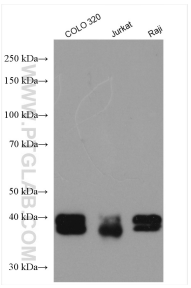
Immunofluorescent analysis of (4% PFA) fixed L02 cells using TIA1 antibody (12133-2-AP) at dilution of 1:200 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L), 594-CL594-Phalloidin (red).



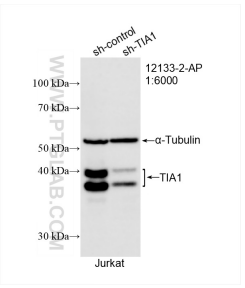
IP result of anti-TIA1 (IP:12133-2-AP, 4ug; Detection:12133-2-AP 1:500) with Jurkat cells lysate 3200ug.



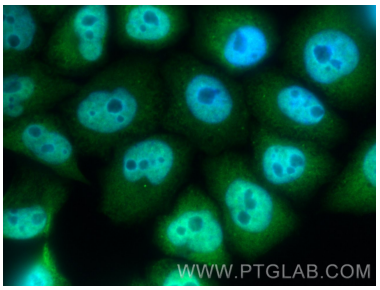
Immunohistochemical analysis of paraffin-embedded human lymphoma tissue slide using 12133-2-AP (TIA1 Antibody) at dilution of 1:200 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



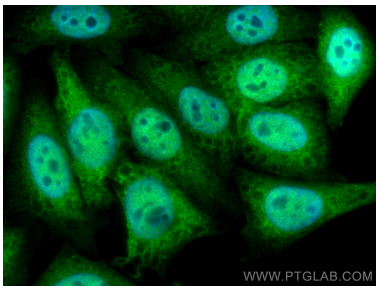
Various lysates were subjected to SDS PAGE followed by western blot with 12133-2-AP (TIA1 antibody) at dilution of 1:40000 incubated at room temperature for 1.5 hours.



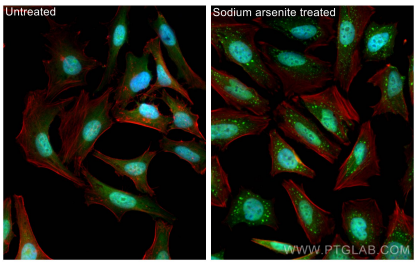
WB result of TIA1 antibody (12133-2-AP; 1:6000; incubated at room temperature for 1.5 hours) with sh-Control and sh-TIA1 transfected Jurkat cells.



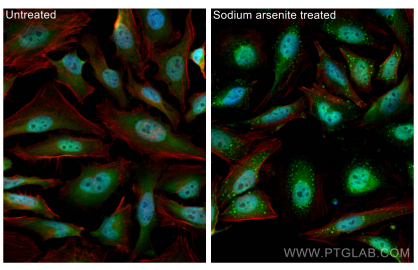
Immunofluorescent analysis of (4% PFA) fixed L02 cells using TIA1 antibody (12133-2-AP) at dilution of 1:200 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L).

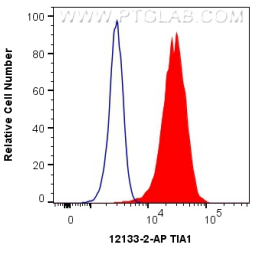


Immunofluorescent analysis of (4% PFA) fixed HepG2 cells using TIA1 antibody (12133-2-AP) at dilution of 1:200 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L).



Immunofluorescent analysis of (4% PFA) fixed sodium arsenite treated HeLa cells using TIA1 antibody (12133-2-AP) at dilution of 1:400 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).





Immunofluorescent analysis of (4% PFA) fixed sodium arsenite treated HeLa cells using TIA1 antibody (12133-2-AP) at dilution of 1:400 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).

1X10^6 HeLa cells were intracellularly stained with 0.4 ug Anti-Human TIA1 (12133-2-AP) and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L) at dilution 1:1000 (red), or 0.4 ug Isotype Control. Cells were fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011).