For Research Use Only

TDP-43 Polyclonal antibody

Catalog Number:10782-2-AP Featured Product 1591 Publications

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Basic Information

Catalog Number:
10782-2-AP

Size:
150ul , Concentration: 600 ug/ml by Nanodrop;

Source:
Rabbit

Isotype:
IgG

GenBank Accession Number:
BC001487

GeneID (NCBI):
23435

UNIPROT ID:
Q13148

Full Name:
TAR DNA binding protein

Calculated MW:
43 kDa

Observed MW:
44 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB: 1:2000-1:10000
IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC: 1:2000-1:8000
IF-Fro: 1:1000-1:4000
IF/ICC: 1:3000-1:12000
FC (Intra): 0.40 ug per 10^6 cells in a 100 µl suspension
ChIP: 1:10-1:100

Applications

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

Cited Applications:
WB, IHC, IF, IP, CoIP, ChIP, RIP, ELISA, IEM

Species Specificity:
human, mouse, rat, zebrafish

Cited Species:
human, mouse, rat, monkey, chicken, zebrafish, hamster, yeast, horse, seal

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 : SH-SY5Y cells, HeLa cells, C2C12 cells, Neuro-2a cells

IP : HeLa cells,

IHC : human gliomas tissue, human brain (FTLD-U) tissue, mouse brain tissue

IF-Fro : rat brain tissue, mouse brain tissue

IF/ICC : HeLa cells,

FC (Intra) : HeLa cells,

ChIP : HeLa cells,

Background Information

The TARDBP gene encodes the TDP-43 protein, initially found to repress HIV-1 transcription by binding TAR DNA. TDP-43 has since been shown to bind RNA as well as DNA, and have multiple functions in transcriptional repression, translational regulation and pre-mRNA splicing. For instance, it is reported to regulate alternate splicing of the CTFR gene. In 2006 Neumann et al. found that hyperphosphorylated, ubiquitinated and/or cleaved forms of TDP-43, collectively known as pathological TDP-43, play a major role in the disease mechanisms of ubiquitin-positive, tau- and alpha-synuclein-negative frontotemporal dementia (FTLD-U) and in amyotrophic lateral sclerosis (ALS). Proteintech's 10782-2-AP antibody is a rabbit polyclonal antibody recognizing N-terminal TDP-43. It recognizes the intact 43 kDa protein as well as all posttranslationally modified and truncated forms in multiple applications. Various forms of TDP-43 exist, including 18-35 kDa of cleaved C-terminal fragments, 45-50 kDa phospho-protein, 55 kDa glycosylated form, 75 kDa hyperphosphorylated form, and 90-300 kDa cross-linked form. (17023659, 19823856, 21666678, 22193176) Recently TDP-43 has been reported to be overexpressed in triple negative breast cancer (TNBC) and it may be a potential target for TNBC diagnosis and drug design. **(29581274)**

Notable Publications

Author	Pubmed ID	Journal	Application
Kasey L Jackson	26445725	Mol Ther Methods Clin Dev	WB
Jinwal Umesh K UK	19793966	J Neurosci	WB
Rudolf Hergesheimer	33003404	Cells	

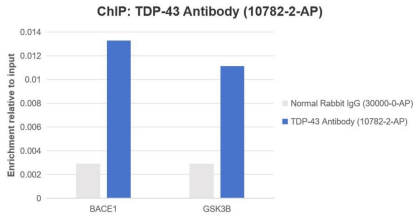
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

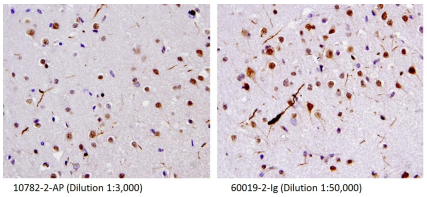
*** 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

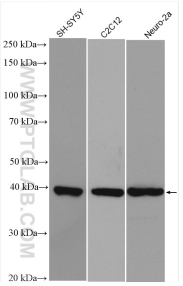
Selected Validation Data



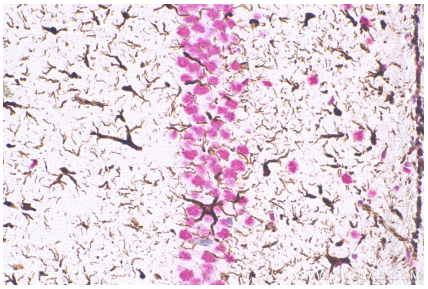
Chromatin was prepared from HeLa cells, cells were fixed with formaldehyde for 10 minutes. The ChIP was performed with 15 µg of cross-linked chromatin, 5 µg of TDP-43 Antibody(10782-2-AP) or 5 ug of Normal Rabbit IgG (30000-0-AP), and 30 µl of Protein A Magarose Beads. The immunoprecipitated DNA was quantified by real time PCR. Primers are located in the first kb of the transcribed region.



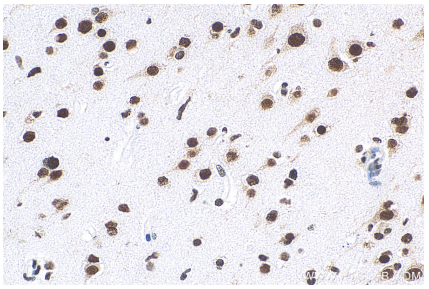
40X of FTLD-U case stained by 10782-2-AP and 60019-2-Ig, showing dystrophic neurites. (Figs were provided by Linda K. Kwong).



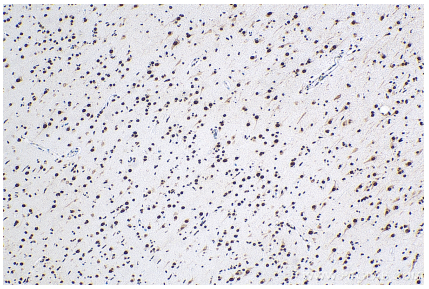
Various lysates were subjected to SDS PAGE followed by western blot with 10782-2-AP (TDP-43 antibody) at dilution of 1:5000 incubated at room temperature for 1.5 hours.



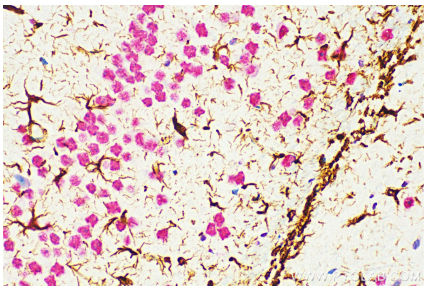
Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 10782-2-AP (TDP-43 (N-terminal) antibody) at dilution of 1:5000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



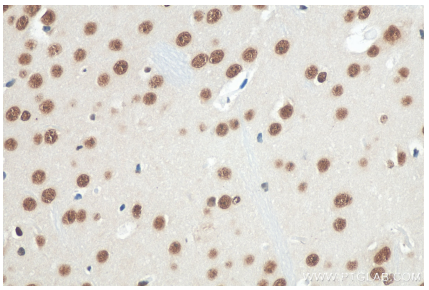
Immunohistochemical analysis of paraffin-embedded human gliomas tissue slide using 10782-2-AP (TDP-43 antibody) at dilution of 1:4000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



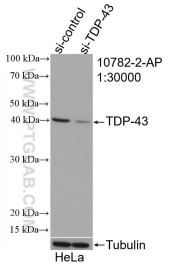
Immunohistochemical analysis of paraffin-embedded human gliomas tissue slide using 10782-2-AP (TDP-43 antibody) at dilution of 1:4000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



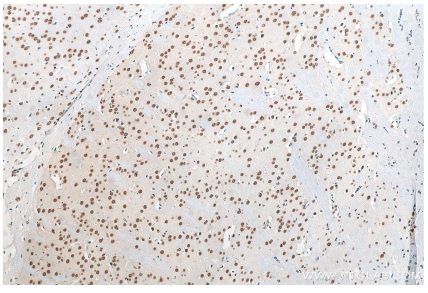
Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 10782-2-AP (TDP-43 (N-terminal) antibody) at dilution of 1:5000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).

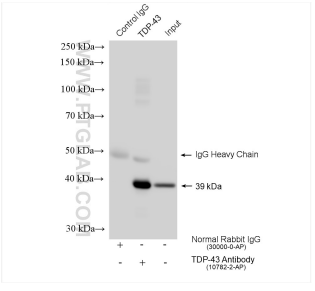


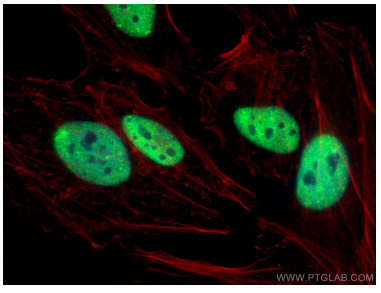
Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 10782-2-AP (TDP-43 antibody) at dilution of 1:2000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



WB result of TDP-43 antibody (10782-2-AP; 1:30000; incubated at room temperature for 1.5 hours) with sh-Control and sh-TDP-43 transfected HeLa cells.



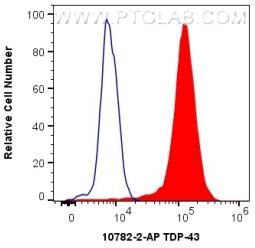


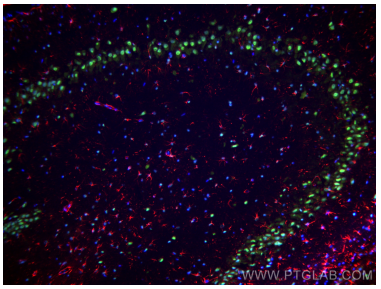


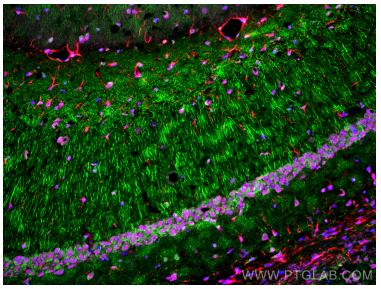
Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 10782-2-AP (TDP-43 antibody) at dilution of 1:2000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).

IP result of anti-TDP-43 (IP:10782-2-AP, 4ug; Detection:10782-2-AP 1:50000) with HeLa cells lysate 1520 ug.

Immunofluorescent analysis of (4% PFA) fixed HeLa cells using TDP-43 antibody (10782-2-AP) at dilution of 1:6000 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CL594-phalloidin (red).







1X10^6 HeLa cells were intracellularly stained with 0.4 ug Anti-Human TDP-43 (10782-2-AP) and CoraLite®488-Conjugated AffiniPure 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).

Immunofluorescent analysis of (4% PFA) fixed frozen OCT-embedded rat brain tissue using TDP-43 antibody (10782-2-AP) at dilution of 1:2000 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2), CoraLite®594 GFAP antibody (CL594-16825, red).

Immunofluorescent analysis of (4% PFA) fixed frozen OCT-embedded mouse brain tissue using TDP-43 antibody (10782-2-AP) at dilution of 1:2000 and CoraLite®647-conjugated F(ab, MAP2 antibody (67015-1-Ig, Clone: 1C3E6, green), CoraLite®594 GFAP antibody (CL594-16825, red).