For Research Use Only

TDP-43 (N-terminal) Recombinant antibody

Catalog Number:80001-1-RR Featured Product 2 Publications

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Antibodies | ELISA kits | Proteins
Uni-rAb
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Basic Information

Catalog Number:
80001-1-RR

Size:
100ul , Concentration: 250 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:
43 kDa

Purification Method:
Protein A purification

CloneNo.:
11N20

Recommended Dilutions:
WB 1:5000-1:50000
IHC 1:500-1:4000
IF-P 1:300-1:1200

Applications

Tested Applications:
WB, IHC, IF-P, FC (Intra), ELISA

Cited Applications:
WB, IHC, IF, IP

Species Specificity:
Human, mouse, rat

Cited Species:
human, mouse

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 : HeLa cells, HAP1 cells, K-562 cells, Neuro-2a cells, C6 cells

IHC : human gliomas tissue, spinal cord slides from ALS patients, frontal cortex from FTLD-TDP type B, mouse brain tissue, rat brain tissue

IF-P : rat brain tissue, HAP1 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 80001-1-RR is a rabbit recombinant TDP-43 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. (PMID: 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. (PMID: 29581274).

80001-1-RR can be used in WB, IHC, IHF. For the ICC (IF with cells) experiment, the results will be better with ethanol fixed cell and dilution 1:50 or 1:100. Another antibody with CatNo. 80002-1-RR is recommended for IF or ICC experiment.

Notable Publications

Author	Pubmed ID	Journal	Application
Dana M Niedowicz	39438022	Brain Pathol	IHC
Donovan Worrall	37359785	F1000Res	WB,IP,IF

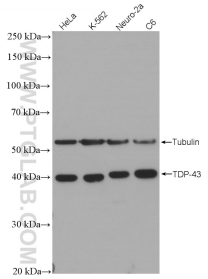
Storage

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

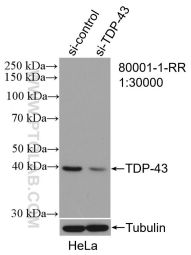
*** 20ul sizes contain 0.1% BSA

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

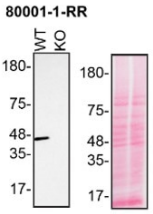
Selected Validation Data



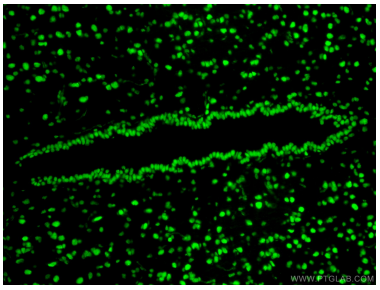
Various cell lysates were subjected to SDS PAGE followed by western blot with 80001-1-RR (TDP43 antibody) at dilution of 1:35000 incubated at room temperature for 1.5 hours.



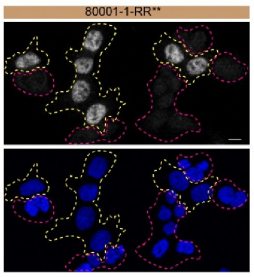
WB result of TDP-43 antibody (80001-1-RR; 1:30000; incubated at room temperature for 1.5 hours) with sh-Control and sh-TDP-43 transfected HeLa cells.



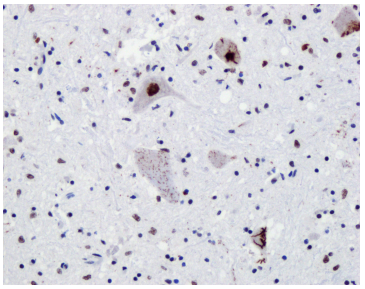
HAP1 (WT and TARDBP KO) lysates prepared with NP-40 buffer, 50 µg protein loaded. 80001-1-RR incubated at 1:1000 at 4°C overnight in 5% milk in TBST. Ponceau stained transfers shown on right. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



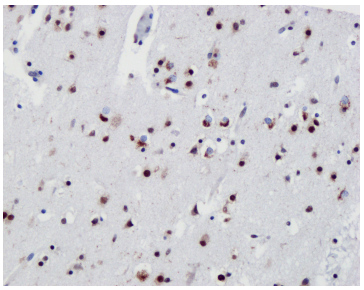
Immunofluorescent analysis of (4% PFA) fixed rat brain tissue using 80001-1-RR (TDP-43 antibody) at dilution of 1:150 and CoraLite488-Conjugated Goat Anti-Rabbit IgG(H+L).



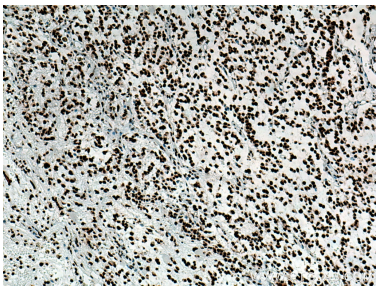
HAP1 WT cells (yellow outline) and TARDBP KO cells (red outline) labelled with a green or a far red fluorescence dye, respectively. Cells fixed with 4% PFA and stained with 80001-1-RR at 1:400 plus DAPI. Bars = 10 µm. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



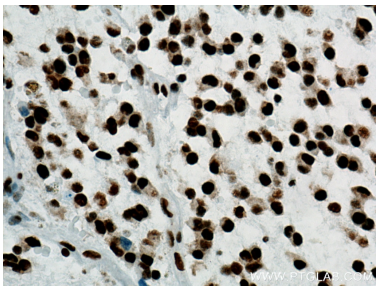
IHC results of TDP43 rabbit recombinant antibody (80001-1-RR, 1:20000) with the spinal cord slides from ALS patients. IHC experiment was done with Ventana automatic staining system and Optiview DAB detection kit with heat-induced epitope retrieval (boiling for 32 min in Tris-EDTA based solution CC1 buffer, Ventana). Fig from the lab of Dr. Neumann.



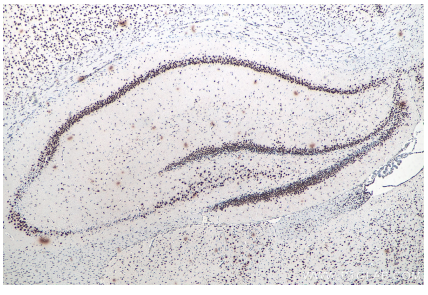
IHC results of TDP43 rabbit recombinant antibody (80001-1-RR, 1:20000) with the frontal cortex from FTLD-TDP type B patients. IHC experiment was done with Ventana automatic staining system and Optiview DAB detection kit with heat-induced epitope retrieval (boiling for 32 min in Tris-EDTA based solution CC1 buffer, Ventana). Fig from the lab of Dr. Neumann.

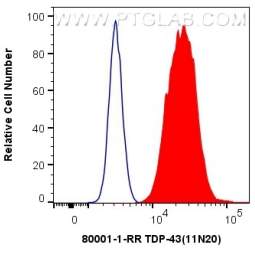


Immunohistochemical analysis of paraffin-embedded human gliomas tissue slide using 80001-1-RR (TDP-43 antibody) at dilution of 1:1500 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded human gliomas tissue slide using 80001-1-RR (TDP-43 antibody) at dilution of 1:1500 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).





Immunohistochemical analysis of paraffin-embedded rat brain tissue slide using 80001-1-RR (TDP-43 antibody) at dilution of 1:2000 (under 4x lens).

1X10^6 HeLa cells were intracellularly stained with 0.4 ug Anti-Human TDP-43 (80001-1-RR, Clone:11N20) 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).