For Research Use Only

TDP-43 (N-terminal) Recombinant antibody

Catalog Number:80002-1-RR Featured Product 4 Publications

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Antibodies | ELISA kits | Proteins
Uni-rAb
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Basic Information

Catalog Number:
80002-1-RR

Concentration:
250 ug/ml

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG1231

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.:
16A22

Recommended Dilutions:
WB: 1:5000-1:50000
IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC: 1:1600-1:6400
IF-P: 1:800-1:3200
IF/ICC: 1:200-1:800
FC (Intra): 0.40 ug per 10^6 cells in a 100 µl suspension

Applications

Tested Applications:
WB, IHC, IF/ICC, IF-P, FC (Intra), IP, 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, K-562 cells, Neuro-2a cells, C6 cells

IP : HAP1 cells, HeLa cells

IHC : mouse brain tissue,

IF-P : rat brain tissue,

IF/ICC : HeLa cells, HepG2 cells, SH-SY5Y cells, HAP1 cells

FC (Intra) : 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 80002-1-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)

80002-1-RR antibody works well in IF experiment.

Notable Publications

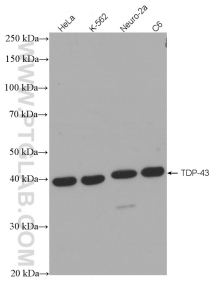
Author	Pubmed ID	Journal	Application
Sonia Infante-Tadeo	39764003	bioRxiv	WB
Shi-Shi Jiang	36926731	Neural Regen Res	WB,IF
Julie Dewisme	37428895	J Neuropathol Exp Neurol	IHC

Storage

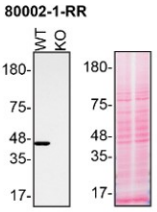
Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH7.3
Aliquoting is unnecessary for -20°C storage

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

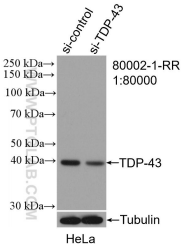
Selected Validation Data



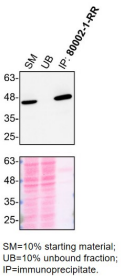
Various cell lysates were subjected to SDS PAGE followed by western blot with 80002-1-RR (TDP-43 antibody) at dilution of 1:12000 incubated at room temperature for 1.5 hours.



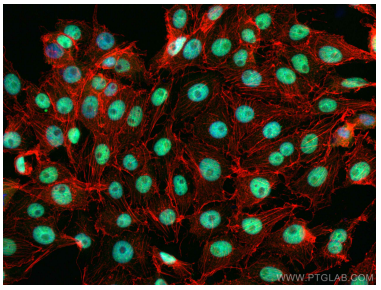
HAP1 (WT and TARDBP KO) lysates prepared with NP-40 buffer, 50 μg protein loaded. 80002-1-RR incubated at 1:1000 at 4°C overnight in 5% milk in TBST. Ponceau stained transfers shown on right. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



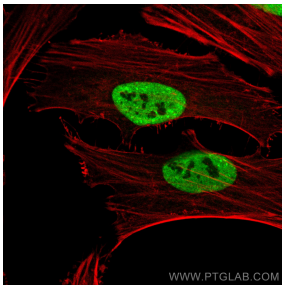
WB result of TDP-43 antibody (80002-1-RR; 1:80000; incubated at room temperature for 1.5 hours) with sh-Control and sh-TDP-43 transfected HeLa cells.



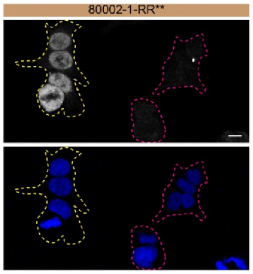
HAP1 lysates prepared and IP of TARDBP performed using 2.0 μg of 80002-1-RR coupled to protein A-Sepharose beads. The Ponceau stained transfers of each blot are shown. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.



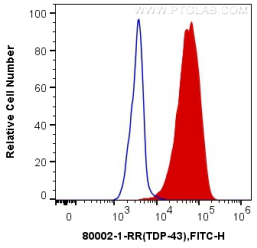
Immunofluorescent analysis of (4% PFA) fixed SH-SY5Y cells using TDP-43 antibody (80002-1-RR, Clone: 16A22) at dilution of 1:200 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L). Red: staining with CoraLite555-Phalloidin.



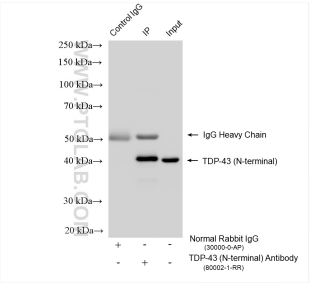
Immunofluorescent analysis of (4% PFA) fixed HeLa cells using TDP-43 antibody (80002-1-RR, Clone: 16A22) at dilution of 1:400 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).



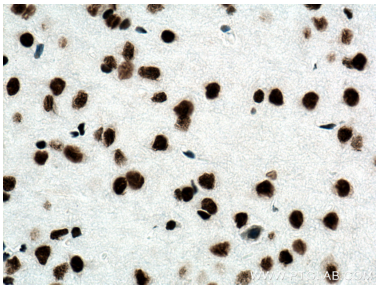
HAP1 WT cells (yellow outline) and TARDBP KO cells (red outline) labelled with a green or a far red fluorescence dye, respectively. Cells fixed with 4% PFA and stained with 80002-1-RR at 1:200 plus DAPI. Bars = 10 μm. Data provided by YCharOS, an open science company with a mission to validate commercial antibodies to improve scientific reproducibility and transparency.

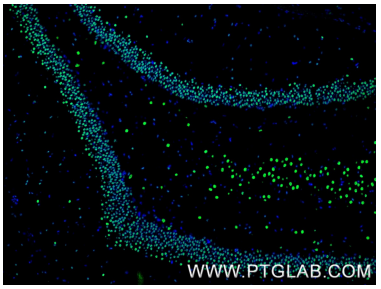


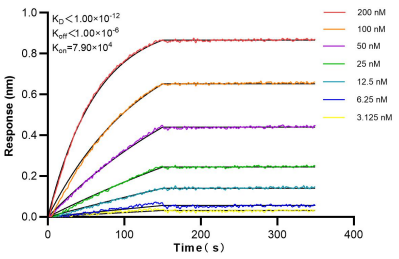
1X10^6 HeLa cells were intracellularly stained with 0.4 ug Anti-Human TDP-43 (for IF/FC) (80002-1-RR, Clone:16A22) and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) at dilution 1:1000 (red), or 0.4 ug Control Antibody. Cells were fixed and permeabilized with Transcription Factor Staining Buffer Kit (PF00011).



IP result of anti-TDP-43 (N-terminal) (IP:80002-1-RR, 4ug; Detection:80002-1-RR 1:20000) with HeLa cells lysate 1200 ug.







Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using RREC80002 (TDP-43 antibody) at dilution of 1:1600 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).

Immunofluorescent analysis of (4% PFA) fixed paraffin-embedded rat brain tissue using TDP-43 (N-terminal) antibody (80002-1-RR, Clone: 16A22) at dilution of 1:1600 and CoraLite®488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).

Biolayer interferometry (BLI) kinetic assays of 80002-1-RR against Human TDP-43 (N-terminal) were performed. The affinity constant is below 1 pM.