

TDP-43 Polyclonal Antibody

Catalog NumberPA5-29949

Product data sheet

Details		Species Reactivity	
Size	100 µL	Species reactivity	Human, Mouse, Rat
Host/Isotope	Rabbit / IgG	Published species	Human, Not Applicable
Class	Polyclonal	Tested Applications	
Type	Antibody	Dilution *	
Immunogen	Recombinant fragment corresponding to a region within amino acids 1 and 289 of Human TARDBP	Immunohistochemistry (Paraffin) (IHC (P))	1:100-1:1,000
		Immunoprecipitation (IP)	1:100-1:1,000
Conjugate	Unconjugated	Western Blot (WB)	1:500-1:3,000
Form	Liquid	ChIP-sequecing (ChIP-Seq)	Assay-dependent
Concentration	0.63 mg/mL	Immunocytochemistry (ICC/IF)	1:100-1:1,000
Purification	Antigen affinity chromatography	Published Applications	
Storage buffer	PBS, pH 7, with 20% glycerol	Immunohistochemistry (IHC)	See 1 publications below
Contains	0.025% ProClin 300	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.		

Product specific information

Recommended positive controls: 293T, A431, HeLa, HepG2, Neuro2A, GL261, NIH-3T3, BCL-1, Raw264.7, PC-12, Rat-2, Rat brain. Predicted reactivity: Mouse (95%), Rat (95%), Zebrafish (83%), Xenopus laevis (91%), Chicken (95%), Bovine (96%). Store product as a concentrated solution. Centrifuge briefly prior to opening the vial.

Background/Target Information

TDP43 was first identified as a novel cellular protein that binds to HIV-1 virus TAR DNA sequence motifs and acts a transcriptional repressor to the HIV-1 LTR. Later experiments revealed that TDP43 also regulates the splicing of exon 9 of the cystic fibrosis transmembrane conductance regular (CFTR), most likely through the association with the UG repeats at the 3'e; splice site. A hyperphosphorylated, ubiquitinated, and cleaved form of TDP43 known as pathologic TDP43 is the major disease protein in ubiquitin-positive, tau-, and alpha-synuclein-negative frontotemporal dementia (FLTD-U). TDP43 is not related to TRBP1, and RNA binding protein that binds HIV-1 TAR RNA sequences.

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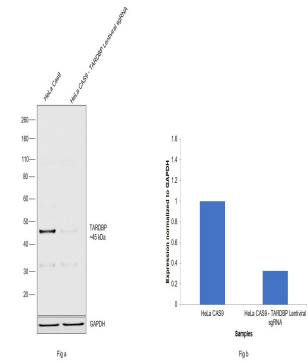
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Product Images For TDP-43 Polyclonal Antibody

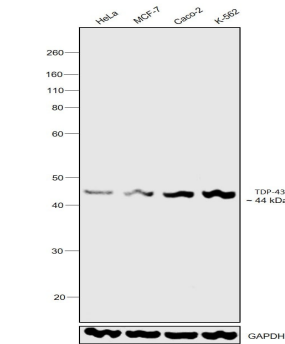
TDP-43 Antibody (PA5-29949)

Antibody specificity was demonstrated by CRISPR-Cas9 mediated genome editing of target protein. A reduced signal was observed for the target protein in HeLa CAS9 cells transduced with TARDBP Lentiviral sgRNA compared to CAS9 control cell line using Anti-TDP-43 Polyclonal Antibody (Product # PA5-29949) {KO}



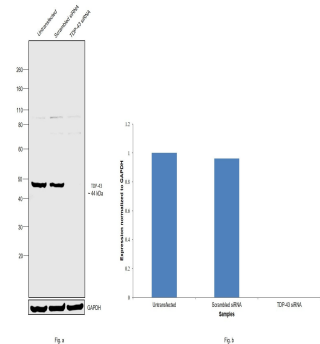
TDP-43 Antibody (PA5-29949) in WB

Western blot was performed using Anti-TDP-43 Polyclonal Antibody(Product # PA5-29949) and a 44kDa band corresponding to TDP-43 was observed across cell lines tested. Whole Cell Extract-WCL (30 µg lysate) of HeLa (Lane 1), MCF7 (Lane 2), Caco-2 (Lane 3) and K-562 (Lane 4) were electrophoresed using NuPAGE™ 4-12% Bis-Tris Protein Gel (Product # NP0322BOX). Resolved proteins were then transferred onto a Nitrocellulose membrane (Product # IB23001) by iBlot® 2 Dry Blotting System (Product # IB21001). The blot was probed with the primary antibody (1:3000 dilution) and detected by chemiluminescence with Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:4000 dilution) using the iBright FL 1000 (Product # A32752). Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit (Product # WP20005).



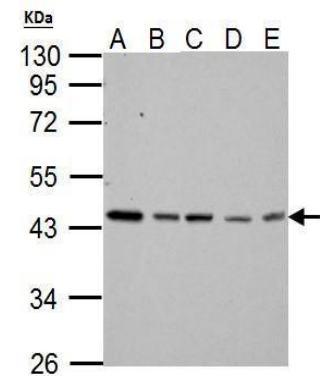
TDP-43 Antibody (PA5-29949)

Antibody specificity was demonstrated by siRNA mediated KD of target protein. HeLa cells were transfected with TDP-43 siRNA and decrease in signal intensity was observed in Western Blot application using Anti-TDP-43 Polyclonal Antibody (Product # PA5-29949). {KD}



TDP-43 Antibody (PA5-29949) in WB

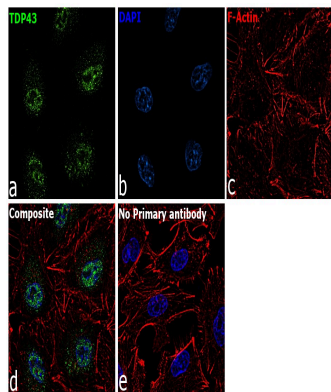
TARDBP antibody detects TARDBP protein by western blot analysis. A. 30 µg Neuro2A whole cell lysate/extract. B. 30 µg GL261 whole cell lysate/extract. C. 30 µg NIH-3T3 whole cell lysate/extract. D. 30 µg BCL-1 whole cell lysate/extract. E. 30 µg Raw264.7 whole cell lysate/extract. 10% SDS-PAGE. TARDBP antibody TDP-43 Polyclonal Antibody (Product # PA5-29949) dilution: 1:3,000. The HRP-conjugated anti-rabbit IgG antibody was used to detect the primary antibody.



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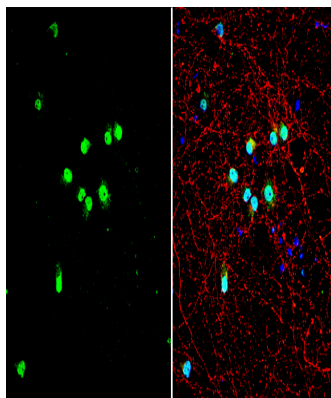
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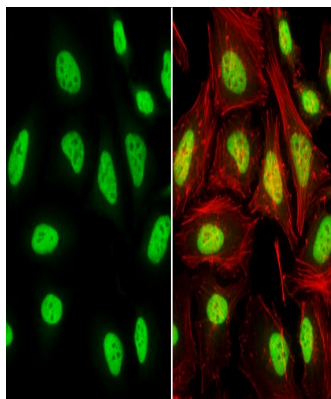
#### TDP-43 Antibody (PA5-29949) in ICC/IF

Immunofluorescence analysis of TDP-43 was performed using 70% confluent log phase HeLa cells. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 2% BSA for 45 minutes at room temperature. The cells were labeled with TDP-43 Polyclonal Antibody (Product # PA5-29949) at 5 µg/mL in 0.1% BSA, incubated at 4 degree celsius overnight and then labeled with Goat anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor Plus 488 (Product # A32731), (1:2000), for 45 minutes at room temperature (Panel a: Green). Nuclei (Panel b:Blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: Red) was stained with Rhodamine Phalloidin (Product # R415, 1:300). Panel d represents the merged image showing Nuclear localization. Panel e represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.



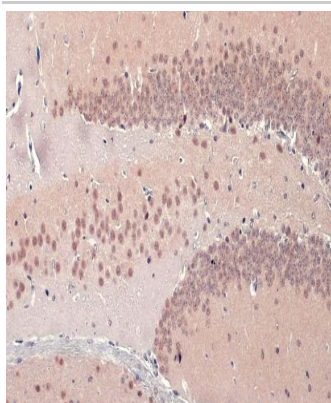
#### TDP-43 Antibody (PA5-29949) in ICC/IF

TDP-43 Polyclonal Antibody detects TDP43 protein by immunofluorescent analysis. Sample: DIV10 rat E18 primary cortical neuron cells were fixed in 4% paraformaldehyde at RT for 15 min. Green: TDP43 stained by TDP-43 Polyclonal Antibody (Product # PA5-29949) diluted at 1:500. Red: Tau, stained by Phospho-Tau (Ser262) Polyclonal Antibody [GT287]diluted at 1:500. Blue: Fluoroshield with DAPI .



#### TDP-43 Antibody (PA5-29949) in ICC/IF

TDP-43 Polyclonal Antibody detects TDP43 protein at nucleus by immunofluorescent analysis. Sample: HeLa cells were fixed in 4% paraformaldehyde at RT for 15 min. Green: TDP43 stained by TDP-43 Polyclonal Antibody (Product # PA5-29949) diluted at 1:2,000. Red: phalloidin, a cytoskeleton marker, diluted at 1:200.



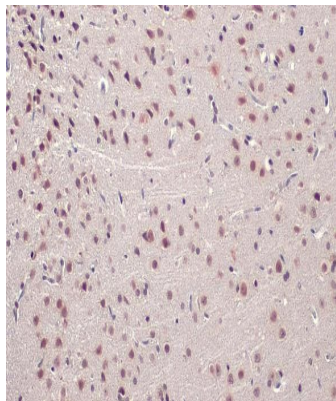
#### TDP-43 Antibody (PA5-29949) in IHC (P)

TDP-43 Polyclonal Antibody detects TDP43 protein at nucleus by immunohistochemical analysis. Sample: Paraffin-embedded mouse brain. TDP43 stained by TDP-43 Polyclonal Antibody (Product # PA5-29949) diluted at 1:500. Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.

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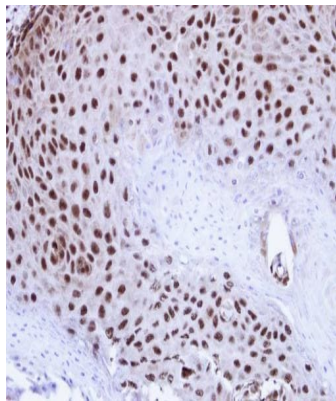
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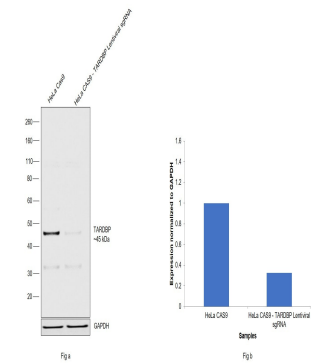
### TDP-43 Antibody (PA5-29949) in IHC (P)

TDP-43 Polyclonal Antibody detects TDP43 protein at nucleus by immunohistochemical analysis. Sample: Paraffin-embedded rat brain. TDP43 stained by TDP-43 Polyclonal Antibody (Product # PA5-29949) diluted at 1:500. Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



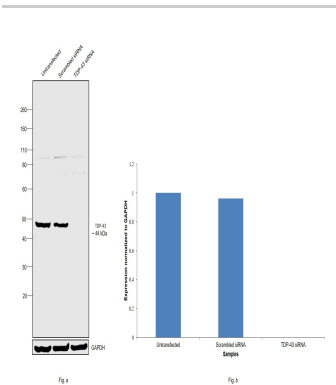
### TDP-43 Antibody (PA5-29949) in IHC (P)

Immunohistochemical analysis of paraffin-embedded Cal27 Xenograft , using TDP-43 (Product # PA5-29949) antibody at 1:100 dilution. Antigen Retrieval: EDTA based buffer, pH 8.0, 15 min.



### TDP-43 Antibody (PA5-29949) in WB

CRISPR-Cas9 mediated genome editing of TARDBP was achieved by using LentiArray™ Lentiviral sgRNA (Product # A32042) (Assay ID CRISPR1087594\_LV) and LentiArray Cas9 Lentivirus (Product # A32064). Fig (a) Western blot analysis of TARDBP was performed by loading 30 µg of HeLa CAS9 (Lane 1) and HeLa CAS9 cells transduced with TARDBP Lentiviral sgRNA (Lane 2) whole cell extracts. The blot was probed with Anti-TDP-43 Polyclonal Antibody (Product # PA5-29949) using 1:3000 dilution and Goat anti-Rabbit IgG (Heavy Chain), Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036). A reduced signal in sgRNA transduced cells using the LentiArray™ CRISPR product line confirms that antibody is specific to TARDBP (Fig (b)). An uncharacterized band was observed at ~32 kDa.



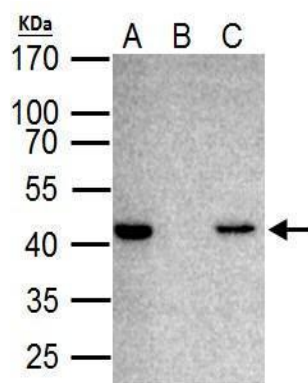
### TDP-43 Antibody (PA5-29949) in WB

Knockdown of TDP-43 was achieved by transfecting HeLa with TDP-43 specific siRNAs (Silencer® select Product # s23830, s23829). Western blot analysis (Fig. a) was performed using Whole Cell Extract-WCL from the TDP-43 knockdown cells (lane 3), non-targeting scrambled siRNA transfected cells (lane 2) and untransfected cells (lane 1). The blot was probed with TDP-43 Polyclonal Antibody (Product # PA5-29949, 1:3000 dilution ) and Goat anti-Rabbit IgG (Heavy Chain) Superclonal™ Recombinant Secondary Antibody, HRP (Product # A27036, 1:4000 dilution). Densitometric analysis of this western blot is shown in histogram (Fig. b). Decrease in signal upon siRNA mediated knock down confirms that antibody is specific to TDP-43.

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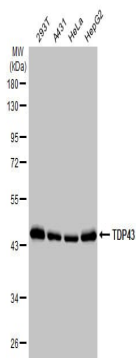
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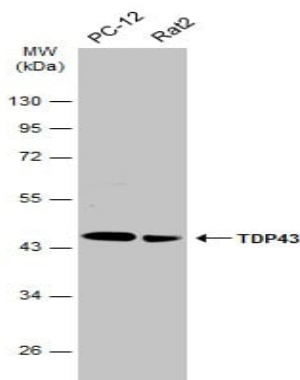
#### TDP-43 Antibody (PA5-29949) in IP

TARDBP antibody immunoprecipitates TARDBP protein in IP experiments. IP Sample: HeLa whole cell lysate/extract A. 40 µg HeLa whole cell lysate/extract B. Control with 2 µg of preimmune rabbit IgG C. Immunoprecipitation of TARDBP protein by 2 µg of TARDBP antibody (Product # PA5-29949) 12% SDS-PAGE The immunoprecipitated TARDBP protein was detected by TARDBP antibody (Product # PA5-29949) diluted at 1:1,000.



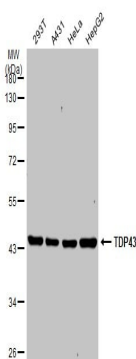
#### TDP-43 Antibody (PA5-29949) in WB

Western Blot using TDP-43 Polyclonal Antibody (Product # PA5-29949). Various whole cell extracts (30 µg) were separated by 10% SDS-PAGE, and the membrane was blotted with TDP-43 Polyclonal Antibody (Product # PA5-29949) diluted at 1:1,000. The HRP-conjugated anti-rabbit IgG antibody was used to detect the primary antibody.



#### TDP-43 Antibody (PA5-29949) in WB

Western Blot analysis of TDP-43 was performed by separating 30 µg of various whole cell extracts by 10% SDS-PAGE. Proteins were transferred to a membrane and probed with a TDP-43 Polyclonal Antibody (Product # PA5-29949) at a dilution of 1:2000 and a HRP-conjugated anti-rabbit IgG secondary antibody.



#### TDP-43 Antibody (PA5-29949) in WB

Western Blot analysis of TDP-43 was performed by separating 30 µg of various whole cell extracts by 10% SDS-PAGE. Proteins were transferred to a membrane and probed with a TDP-43 Polyclonal Antibody (Product # PA5-29949) at a dilution of 1:1000 and a HRP-conjugated anti-rabbit IgG secondary antibody.

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PubMed References For TDP-43 Polyclonal Antibody

1 Immunohistochemistry References

Species / Dilution	Summary
Human / 1:500	<p>PA5-29949 was used in Immunohistochemistry to assess clinical presentation, neuropathological changes, load of DNA damage, morphological markers of cellular senescence, and expression of genes involved in DNA damage signaling, DNA repair, and cellular senescence including the senescence-associated secretory phenotype (SASP) in 38 professional athletes.</p> <p>Acta neuropathologica communications ( 2019; 7: ) <b>"DNA repair deficiency and senescence in concussed professional athletes involved in contact sports."</b> Author(s):Schwab N,Grenier K,Hazrati LN PubMed Article URL:<a href="http://dx.doi.org/10.1186/s40478-019-0822-3">http://dx.doi.org/10.1186/s40478-019-0822-3</a></p>

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