

Product Datasheet

TDP-43/TARDBP Antibody (2E2-D3) - Azide and BSA Free H00023435-M01

Unit Size: 0.1 mg

Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

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H00023435-M01

TDP-43/TARDBP Antibody (2E2-D3) - Azide and BSA Free

| Product Information | |
|-------------------------|--|
| Unit Size | 0.1 mg |
| Concentration | Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services. |
| Storage | Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles. |
| Clonality | Monoclonal |
| Clone | 2E2-D3 |
| Preservative | No Preservative |
| Isotype | IgG1 Kappa |
| Purity | IgG purified |
| Buffer | In 1x PBS, pH 7.4 |
| Target Molecular Weight | 45 kDa |

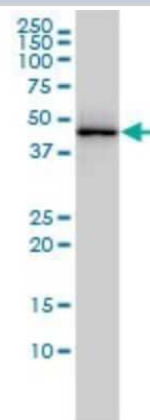
| Product Description | |
|-------------------------|--|
| Description | Novus Biologicals Mouse TDP-43/TARDBP Antibody (2E2-D3) - Azide and BSA Free (H00023435-M01) is a monoclonal antibody validated for use in IHC, WB, ELISA, ICC/IF and IP. Anti-TDP-43/TARDBP Antibody: Cited in 208 publications. All Novus Biologicals antibodies are covered by our 100% guarantee. |
| Host | Mouse |
| Gene ID | 23435 |
| Gene Symbol | TARDBP |
| Species | Human, Mouse, Rat, Bacteria, Insect, Monkey, Firefly |
| Reactivity Notes | Cross reactivity in Mouse and Rat reported by customer review. Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Mouse-On-Mouse blocking reagent may be needed for IHC and ICC experiments to reduce high background signal. You can find these reagents under catalog numbers PK-2200-NB and MP-2400-NB. Please contact Technical Support if you have any questions. |
| Specificity/Sensitivity | TARDBP - TAR DNA binding protein |
| Immunogen | TARDBP (NP_031401.1, 1 a.a. ~ 260 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa. MSEYIRVTEDEENDEPIEIPSEDDGTVLLSTVTAQFPGACGLRYRNPVSQCMRG VRLVEGILHAPDAGWGNLVYVVNYPKDNKRKMDETDASSAVKVKRAVQKTS LIVLGLPWKTTEQDLKEYFSTFGEVLMVQVKKDLKTGHSGFGFVRFTEYETQ VKVMSQRHMIDGRWCDCKLPNSKQSQDEPLRSRKVFVGRCTEDMTEDELRE FFSQYGDVMDVFIPKPFRAFAFVTFADDQIAQSLCGEDLIIGISVHISNA |
| Notes | This product is produced by and distributed for Abnova, a company based in Taiwan. |

| Product Application Details | |
|-----------------------------|--|
| Applications | Western Blot, Immunohistochemistry-Paraffin, ELISA, Functional, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunoprecipitation, Knockdown Validated |
| Recommended Dilutions | Western Blot 1:500, ELISA 1:100-1:2000, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:10-1:500, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:10-1:500, Functional, Knockdown Validated |

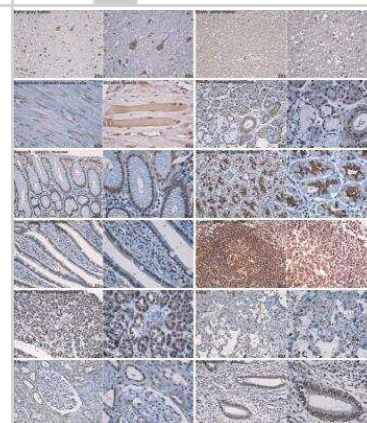


Images

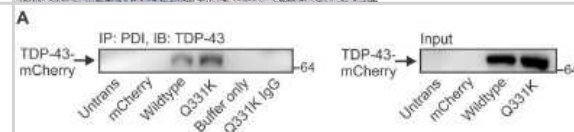
Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - TARDBP monoclonal antibody (M01), clone 2E2-D3 Analysis of TARDBP expression in A-431.



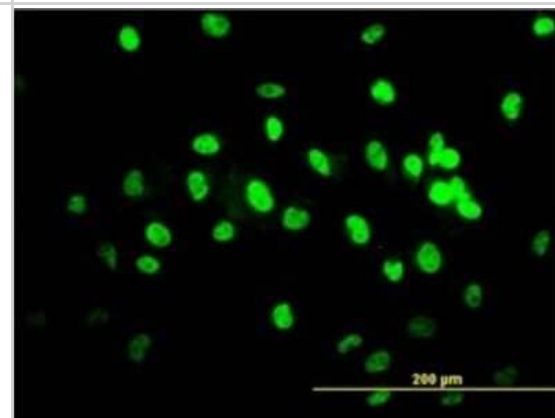
Immunohistochemistry-Paraffin: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - TARDBP in rat tissue samples. Image courtesy of product review by Daniel Pirici.



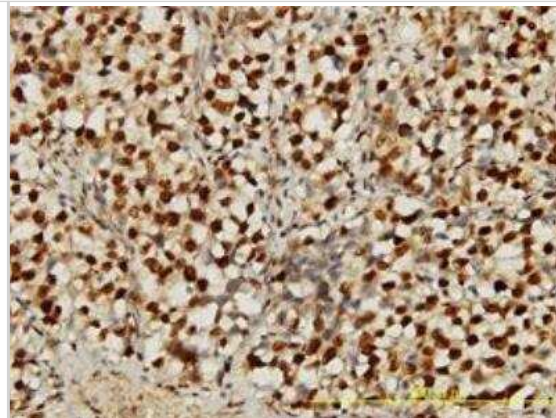
Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - PDI co-precipitates with TDP-43/TARDBP and is increased in mutant TDP-43 transgenic mouse spinal cords. Co-immunoprecipitation of wildtype and mutant Q331K TDP-43-mCherry from Neuro2a cell lysates using an anti-PDI antibody followed by TDP-43 immunoblot. Control immunoprecipitations were performed using untransfected (Untrans) or mCherry expressing cell lysates, buffer only with coprecipitating antibodies or TDP-43 Q331K cell lysates using an irrelevant, isotype-matched control antibody (IgG). Input control (2%) shows expression of mCherry-TDP43 in wildtype and Q331K cell lysates. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0081170>) licensed under a CC-BY license.



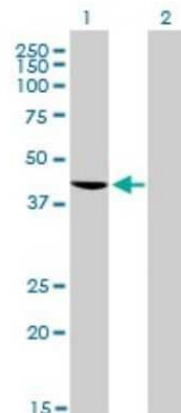
Immunocytochemistry/Immunofluorescence: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - Analysis of monoclonal antibody to TARDBP on HeLa cell. Antibody concentration 10 ug/ml.



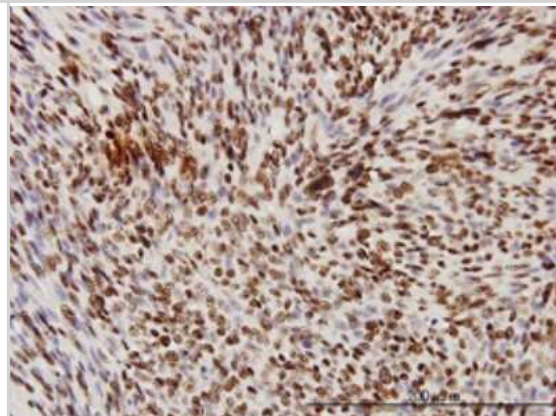
Immunohistochemistry-Paraffin: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - TARDBP on formalin-fixed paraffin-embedded human leiomyosarcoma. [antibody concentration 3 ug/ml]



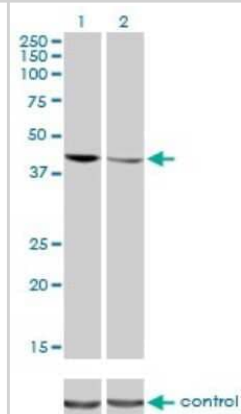
Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - Analysis of TARDBP expression in transfected 293T cell line by TARDBP monoclonal antibody (M01), clone 2E2-D3. Lane 1: TARDBP transfected lysate (44.7 KDa). Lane 2: Non-transfected lysate.



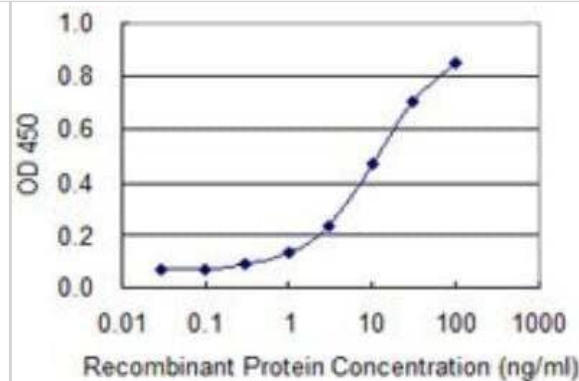
Immunohistochemistry-Paraffin: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - Analysis of monoclonal antibody to TARDBP on formalin-fixed paraffin-embedded human leiomyosarcoma tissue. Antibody concentration 3 ug/ml.



Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - Analysis of TARDBP over-expressed 293 cell line, cotransfected with TARDBP Validated Chimera RNAi (Cat # H00023435-R01V) (Lane 2) or non-transfected control (Lane 1). Blot probed with TARDBP monoclonal antibody (M01), clone 2E2-D3 (Cat # H00023435-M01). GAPDH (36.1 kDa) used as specificity and loading control.



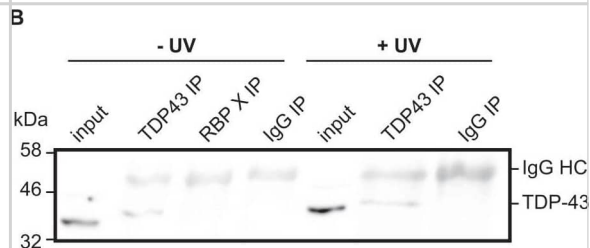
ELISA: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - Detection limit for recombinant GST tagged TARDBP is 0.3 ng/ml as a capture antibody.



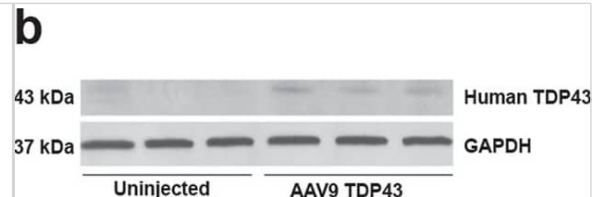
Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - PDI co-precipitates with TDP-43 & is increased in mutant TDP-43 transgenic mouse spinal cords. (A) Co-immunoprecipitation of wildtype & mutant Q331K TDP-43-mCherry from Neuro2a cell lysates using an anti-PDI antibody followed by TDP-43 immunoblot. Control immunoprecipitations performed using untransfected (Untrans) or mCherry expressing cell lysates, buffer only with coprecipitating antibodies or TDP-43 Q331K cell lysates using an irrelevant, isotype-matched control antibody (IgG). Input control (2%) shows expression of mCherry-TDP43 in wildtype & Q331K cell lysates. Image collected & cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.pone.0081170>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - CLIP shows that TDP-43 directly interacts with translational target mRNAs. (A) Schematic diagram of the CLIP experiment. (B) Immunoblot showing specific IP of TDP-43 from MN1 cells under CLIP conditions. A TDP-43 band is specifically observed in the input & TDP-43 IP lanes from both untreated & UV-treated cells, but not in the IgG or anti-RBP X control lanes. RBP X is an IP of a different RNA-binding protein, which serves as an additional specificity control here. (C and D) Plots showing percentage of input mRNA in the TDP-43 IP for the mRNAs indicated in three separate CLIP assays from MN1 cells. Performing CLIP from UV-treated cells leads to significant recovery & enrichment relative to Gapdh for all mRNAs examined (C). In the absence of UV treatment, much less mRNA is recovered & no significant enrichment relative to Gapdh mRNA is observed. Note that the Y-axis scale in D is 1000× smaller than in C, indicating strong crosslinking dependence of mRNA co-immunoprecipitation (n = 3, s.e.m. error bars, P-values indicated in the plot, unpaired two-tailed t-test). Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30357366>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: TDP-43/TARDBP Antibody (2E2-D3) [H00023435-M01] - SINE compounds partially rescue motor deficits in an animal model of ALS/FTD. (a) Schematic timeline for in vivo experiments. (b) Western blot demonstrating the expression of human TDP43 within the brains of AAV9-injected animals, which we have previously shown is largely restricted to neuronal cell types (Jackson et al.59). Full-length blots appear in Fig. S1. (c) The hang test measures the time it takes for animals to fall from grid-like scaffold when it is lifted & tilted. A single representative animal administered AAV9-TDP43 is shown; note the inability of the hind limbs to clasp the wire mesh. (d) TDP43 expression impaired motor performance on the hang test at 3 weeks, an effect that could be mitigated by 7.5 mg kg⁻¹ KPT-350. (e) Rotarod testing at 4 weeks of age showed prominent deficits associated with TDP43 expression that were resistant to treatment with SINE compounds. n, number of animals per condition. ns, not significant, mean ± s.e.m. *p < 0.05, **p < 0.01, ***p < 0.001, one-way ANOVA with Bonferroni correction. Image collected & cropped by CiteAb from the following publication (<https://www.nature.com/articles/s41598-018-22858-w>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Becker LA, Huang B, Bieri G et al. Therapeutic reduction of ataxin-2 extends lifespan and reduces pathology in TDP-43 mice *Nature* 2017-04-20 [PMID: 28405022]

Pourhaghighi R, Ash PEA, Phanse S et al. BrainMap Elucidates the Macromolecular Connectivity Landscape of Mammalian Brain Cell Syst 2020-04-22 [PMID: 32325033]

Mamontova, EM;Clément, MJ;Sukhanova, MV;Joshi, V;Bouhss, A;Rengifo-Gonzalez, JC;Desforges, B;Hamon, L;Lavrik, OI;Pastré, D; FUS RRM regulates poly(ADP-ribose) levels after transcriptional arrest and PARP-1 activation on DNA damage *Cell reports* 2023-10-05 [PMID: 37804508]

Carmen-Orozco RP, Tsao W, Ye Y et al. Elevated nuclear TDP-43 induces constitutive exon skipping *bioRxiv : the preprint server for biology* 2023-05-12 [PMID: 37215013] (IHC, Mouse)

Angelo J, Seong A A Microplate-Based Approach to Map Interactions between TDP-43 and ?-Synuclein. *J Clin Med.* 2022-01-24 [PMID: 35160025]

Shayna S, Zainuddin Q, Abraian M et al. Hypusination of Eif5a regulates cytoplasmic TDP-43 aggregation and accumulation in a stress-induced cellular model. *Biochim Biophys Acta Mol Basis Dis.* 2020-08-31 [PMID: 32882370]

Mishra P, Boutej H, Soucy G et al. Transmission of ALS pathogenesis by the cerebrospinal fluid. *Acta Neuropathol Commun.* 2020-05-07 [PMID: 32381112]

Jorge M, Friederike H, Felix Z et al. Sirtuin-1 sensitive lysine-136 acetylation drives phase separation and pathological aggregation of TDP-43. *Nat Commun.* 2022-03-09 [PMID: 35264561]

Johnathan C, Thomas J, Emily F et al. Atypical TDP-43 protein expression in an ALS pedigree carrying a p.Y374X truncation mutation in TARDBP. *Brain Pathol.* 2022-07-24 [PMID: 35871544]

Silvia P, Philippe C, Genevieve S et al. Monoclonal full-length antibody against TAR DNA-binding protein 43 reduces related proteinopathy in neurons. *JCI Insight.* 2020-11-05 [PMID: 33021970]

Taylor P, Lauren F, Yu Z et al. Detection and characterization of TDP-43 in human cells and tissues by multiple reaction monitoring mass spectrometry. *Clin Mass Spectrom.* 2019-07-19 [PMID: 34917762]

Ahmed S, Fairen M, Sabir M et al. MAPT p.V363I mutation: A rare cause of corticobasal degeneration. *Neurol Genet.* 2019-06-25 [PMID: 31404212]

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| HAF007 | Goat anti-Mouse IgG Secondary Antibody [HRP] |
| NB7539 | Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP] |
| NBP1-43319-0.5mg | Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1) |

Limitations

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