Anti-Phospho-TDP43 (S409, S410) Antibody

HA500636

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 45 kDa

Description: TDP-43 is a transcriptional repressor that binds to chromosomally integrated TAR DNA and represses HIV-1 transcription. In addition, this protein regulates alternate splicing of the CFTR gene. TDP-43 has been shown to bind both DNA and RNA and have multiple functions in transcriptional repression, pre-mRNA splicing and translational regulation. Recent work has characterized the transcriptome-wide binding sites revealing that thousands of RNAs are bound by TDP-43 in neurons. TDP-43 was originally identified as a transcriptional repressor that binds to chromosomally integrated trans-activation response element (TAR) DNA and represses HIV-1 transcription. It was also reported to regulate alternate splicing of the CFTR gene and the apoA-II gene. In spinal motor neurons TDP-43 has also been shown in humans to be a low molecular weight neurofilament (hNFL) mRNA-binding protein. It has also shown to be a neuronal activity response factor in the dendrites of hippocampal neurons suggesting possible roles in regulating mRNA stability, transport and local translation in neurons. It has been demonstrated that zinc ions are able to induce aggregation of endogenous TDP-43 in cells. Moreover, zinc could bind to RNA binding domain of TDP-43 and induce the formation of amyloid-like aggregates in vitro.

Immunogen: Synthetic phospho-peptide corresponding to residues surrounding Ser409 and Ser410 of Human TDP43.

Positive control: HeLa treated with 1μM Okadaic acid for 1 hour cell lysate, C6 treated with 1μM Okadaic acid for 1 hour cell lysate, RAW264.7 treated with 200nM Calyculin A and 1μM Okadaic Acid for 1 hour cell lysate.

Subcellular location: Cytoplasm, Mitochondrion, Nucleus.

Database links: SwissProt: Q13148 Human | Q921F2 Mouse
Entrez Gene: 298648 Rat

Recommended Dilutions:

WB	1:5,000
IHC-P	1:200-1:1,000

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

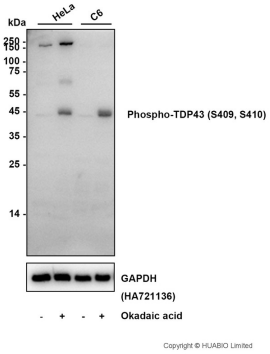

Fig1: Western blot analysis of Phospho-TDP43 (S409, S410) on different lysates with Rabbit anti-Phospho-TDP43 (S409, S410) antibody (HA500636) at 1/5,000 dilution.

Lane 1: HeLa (Human cervical adenocarcinoma cells) cell lysate
Lane 2: HeLa treated with 1μM Okadaic acid for 1 hour cell lysate
Lane 3: C6 (Rat glioma cells) cell lysate
Lane 4: C6 treated with 1μM Okadaic acid for 1 hour cell lysate

Lysates/proteins at 20 μg/Lane.
Exposure time: 3 minutes; ECL: K1801

Blocking: 5% NFDM/TBST, 1 hour at room temperature
Primary antibody: HA500636, 1/5,000 in primary antibody dilution buffer (K1803), overnight at 4 °C
Secondary antibody: Goat anti-Rabbit IgG-HRP (HA1001), 1/50,000 in 5% NFDM/TBST, 1 hour at room temperature

Predicted band size: 45 kDa
Observed band size: 45 kDa

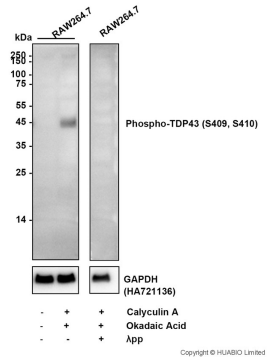

Fig2: Western blot analysis of Phospho-TDP43 (S409, S410) on different lysates with Rabbit anti-Phospho-TDP43 (S409, S410) antibody (HA500636) at 1/5,000 dilution.

Lane 1: RAW264.7 (Mouse monocytic macrophage leukemia cells) cell lysate
Lane 2: RAW264.7 treated with 200nM Calyculin A and 1μM Okadaic Acid for 1 hour cell lysate
Lane 3: RAW264.7 treated with 200nM Calyculin A and 1μM Okadaic Acid for 1 hour cell lysate, then the membrane treated with λpp for 1 hour

Lysates/proteins at 20 μg/Lane.
Exposure time: 3 minutes; ECL: K1801

Blocking: 5% NFDM/TBST, 1 hour at room temperature
Primary antibody: HA500636, 1/5,000 in primary antibody dilution buffer (K1803), overnight at 4 ℃
Secondary antibody: Goat anti-Rabbit IgG-HRP (HA1001), 1/50,000 in 5% NFDM/TBST, 1 hour at room temperature

Predicted band size: 45 kDa
Observed band size: 45 kDa

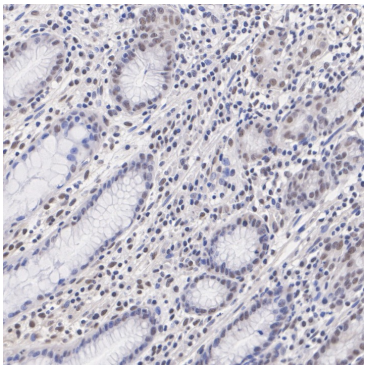

Fig3: Application: Immunohistochemistry (IHC-P)

Species: Human
Tissue: Stomach
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

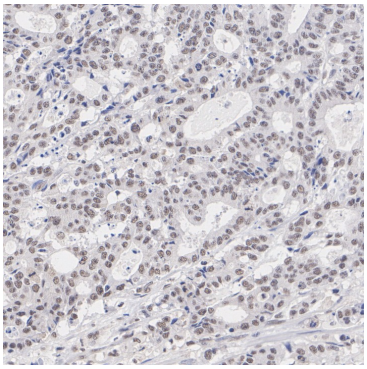

Fig4: Application: Immunohistochemistry (IHC-P)

Species: Human
Tissue: Colorectal cancer
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/200, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

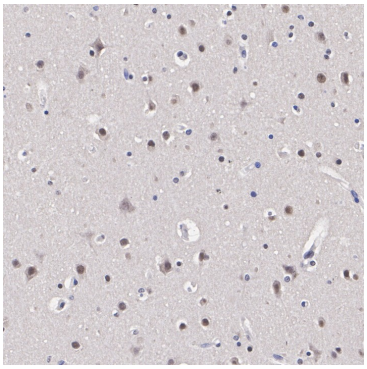

Fig5: Application: Immunohistochemistry (IHC-P)

Species: Human
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

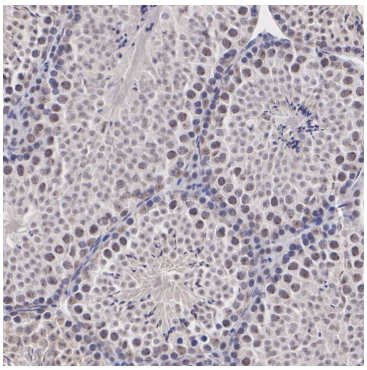

Fig6: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Testis
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/200, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

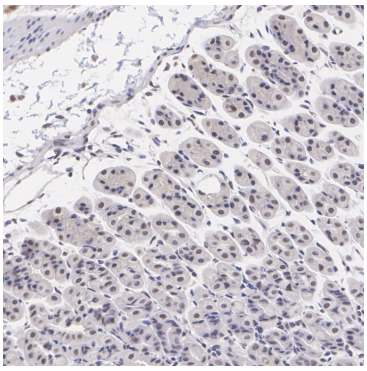

Fig7: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Stomach
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

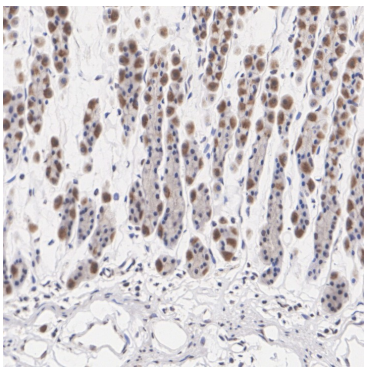

Fig8: Application: Immunohistochemistry (IHC-P)

Species: Rat
Tissue: Stomach
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/1,000, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

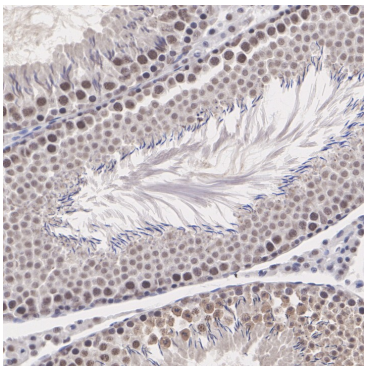

Fig9: Application: Immunohistochemistry (IHC-P)

Species: Rat
Tissue: Testis
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/200, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

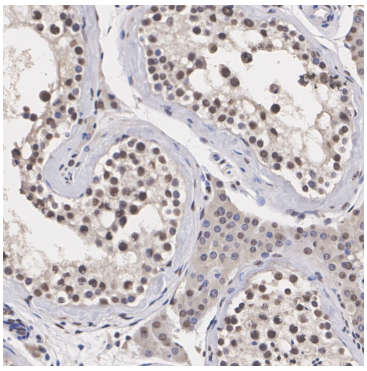

Fig10: Application: Immunohistochemistry (IHC-P)

Species: Human
Tissue: Testis
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H_2O_2, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA500636, 1/200, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. McMillan M et al. RNA methylation influences TDP43 binding and disease pathogenesis in models of amyotrophic lateral sclerosis and frontotemporal dementia. Mol Cell. 2023 Jan
2. Corbet GA et al. TDP43 ribonucleoprotein granules: physiologic function to pathologic aggregates. RNA Biol. 2021 Oct