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TARDBP Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5091

Product Information

Application	IF, IHC-P, WB
Primary Accession	Q13148
Other Accession	Q921F2, Q5ZLN5, NP_031401.1
Reactivity	Mouse, Human
Predicted	Chicken
Host	Rabbit
Clonality	Polyclonal
Calculated MW	44740
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	23435
Antigen Region	1-30
Other Names	TARDBP; TDP43; TAR DNA-binding protein 43
Dilution	IF~~1:10~50 IHC-P~~1:100~500 WB~~1:1000
Target/Specificity	This TARDBP antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human TARDBP.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TARDBP Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TARDBP {ECO:0000303|PubMed:18396105, ECO:0000312|HGNC:HGNC:11571}
Function	RNA-binding protein that is involved in various steps of RNA biogenesis and

	processing (PubMed:23519609). Preferentially binds, via its two RNA recognition motifs RRM1 and RRM2, to GU-repeats on RNA molecules predominantly localized within long introns and in the 3'UTR of mRNAs (PubMed:23519609, PubMed:24240615, PubMed:24464995). In turn, regulates the splicing of many non-coding and protein-coding RNAs including proteins involved in neuronal survival, as well as mRNAs that encode proteins relevant for neurodegenerative diseases (PubMed:21358640, PubMed:29438978). Plays a role in maintaining mitochondrial homeostasis by regulating the processing of mitochondrial transcripts (PubMed:28794432). Also regulates mRNA stability by recruiting CNOT7/CAF1 deadenylase on mRNA 3'UTR leading to poly(A) tail deadenylation and thus shortening (PubMed:30520513). In response to oxidative insult, associates with stalled ribosomes localized to stress granules (SGs) and contributes to cell survival (PubMed:19765185, PubMed:23398327). Also participates in the normal skeletal muscle formation and regeneration, forming cytoplasmic myo-granules and binding mRNAs that encode sarcomeric proteins (PubMed:30464263). Plays a role in the maintenance of the circadian clock periodicity via stabilization of the CRY1 and CRY2 proteins in a FBXL3-dependent manner (PubMed:27123980). Negatively regulates the expression of CDK6 (PubMed:19760257). Regulates the expression of HDAC6, ATG7 and VCP in a PPIA/CYPA-dependent manner (PubMed:25678563).
Cellular Location	Nucleus. Cytoplasm. Cytoplasm, Stress granule Mitochondrion. Note=Continuously travels in and out of the nucleus (PubMed:18957508). Localizes to stress granules in response to oxidative stress (PubMed:19765185). A small subset localizes in mitochondria (PubMed:28794432).
Tissue Location	Ubiquitously expressed. In particular, expression is high in pancreas, placenta, lung, genital tract and spleen

Background

HIV-1, the causative agent of acquired immunodeficiency syndrome (AIDS), contains an RNA genome that produces a chromosomally integrated DNA during the replicative cycle. Activation of HIV-1 gene expression by the transactivator Tat is dependent on an RNA regulatory element (TAR) located downstream of the transcription initiation site. The protein encoded by this gene 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. A similar pseudogene is present on chromosome 20. [provided by RefSeq].

References

Kim, S.H., et al. J. Biol. Chem. 285(44):34097-34105(2010)
Geser, F., et al. Arch. Neurol. 67(10):1238-1250(2010)
Mackenzie, I.R., et al. Lancet Neurol 9(10):995-1007(2010)
Shan, X., et al. Proc. Natl. Acad. Sci. U.S.A. 107(37):16325-16330(2010)
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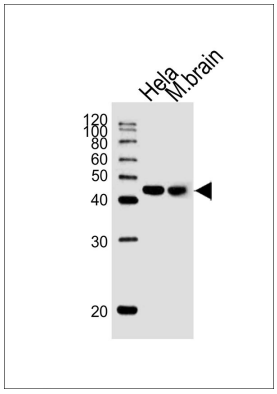
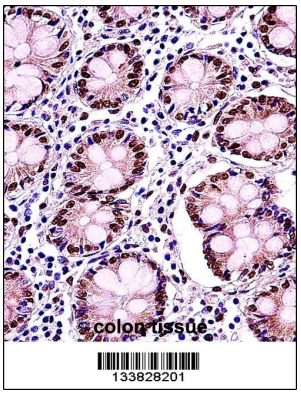
Images

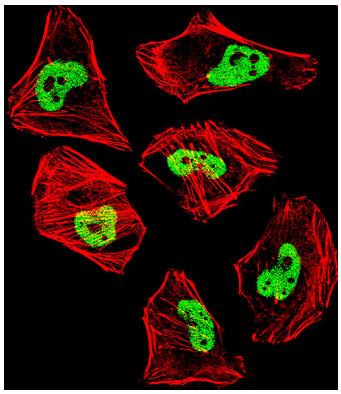
Western blot analysis of lysates from Hela cell line,mouse brain tissue lysate(from left to right), using TARDBP Antibody (N-term)(Cat. #AW5091). AW5091 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary



antibody.Lysates at 20ug per lane.



TARDBP Antibody (N-term) (Cat. #AW5091)immunohistochemistry analysis in formalin fixed and paraffin embedded human colon tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of TARDBP Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.



Fluorescent confocal image of Hela cell stained with TARDBP Antibody (N-term)(Cat#AW5091).Hela cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with TARDBP primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min).TARDBP immunoreactivity is localized to nucleus significantly and Cytoplasm weakly.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.