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TDP43 Antibody

Rabbit mAb
Catalog # AP91254

Product Information

Application	WB, IHC, IF, FC, ICC, IP, IHF
Primary Accession	Q13148
Reactivity	Rat, Human, Mouse, Zebrafish
Clonality	Monoclonal
Other Names	ALS10; TAR DNA binding protein 43; TARDBP; TDP43;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	44740

Additional Information

Dilution	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:50 FC 1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human TDP43
Description	TDP43 (TAR DNA-binding protein 43) is involved in transcriptional regulation and exon splicing. While normal TDP43 is a nuclear protein, pathological TDP43 is a component of insoluble aggregates in patients with frontotemporal lobar degeneration (FTLD) and amyotrophic lateral sclerosis (ALS).
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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).

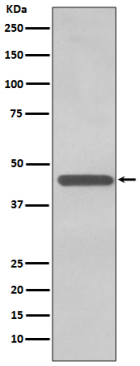
Cellular Location

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

Images



Western blot analysis of TDP43 expression in K562 cell lysate.