

TARDBP (H-8): sc-376532

BACKGROUND

TARDBP (TAR DNA binding protein), also known as TDP-43, is a nuclear protein that contains two RRM (RNA recognition motif) domains. Ubiquitously expressed with highest levels found in placenta, lung, pancreas, spleen and genital tract, TARDBP functions as a DNA-binding protein and specifically binds to the TAR DNA sequence motifs of HIV. Via this association with TAR motifs, TARDBP acts as a transcriptional repressor and inhibits HIV-1 transcription. TARDBP can also function as a negative regulator of splicing activity and is known to be involved in the splicing of CFTR (cystic fibrosis transmembrane receptor). In addition, TARDBP is a major component of ubiquitin-positive inclusion bodies that are prominent in many neurodegenerative diseases. This suggests that TARDBP may play a role in the development of neurodegenerative disorders. Due to alternative splicing events, various isoforms exist for TARDBP.

REFERENCES

1. Ou, S.H., et al. 1995. Cloning and characterization of a novel cellular protein, TDP-43, that binds to human immunodeficiency virus type 1 TAR DNA sequence motifs. *J. Virol.* 69: 3584-3596.
2. Buratti, E., et al. 2001. Nuclear factor TDP-43 and SR proteins promote *in vitro* and *in vivo* CFTR exon 9 skipping. *EMBO J.* 20: 1774-1784.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605078. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: TARDBP (human) mapping to 1p36.22; Tardbp (mouse) mapping to 4 E2.

SOURCE

TARDBP (H-8) is a mouse monoclonal antibody raised against amino acids 1-89 mapping at the N-terminus of TARDBP of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376532 X, 200 µg/0.1 ml.

TARDBP (H-8) is available conjugated to agarose (sc-376532 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376532 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376532 PE), fluorescein (sc-376532 FITC), Alexa Fluor® 488 (sc-376532 AF488), Alexa Fluor® 546 (sc-376532 AF546), Alexa Fluor® 594 (sc-376532 AF594) or Alexa Fluor® 647 (sc-376532 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376532 AF680) or Alexa Fluor® 790 (sc-376532 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

TARDBP (H-8) is recommended for detection of TARDBP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TARDBP (H-8) is also recommended for detection of TARDBP in additional species, including equine, canine and bovine.

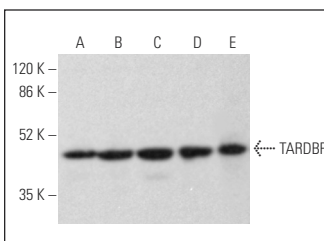
Suitable for use as control antibody for TARDBP siRNA (h): sc-88586, TARDBP siRNA (m): sc-154072, TARDBP shRNA Plasmid (h): sc-88586-SH, TARDBP shRNA Plasmid (m): sc-154072-SH, TARDBP shRNA (h) Lentiviral Particles: sc-88586-V and TARDBP shRNA (m) Lentiviral Particles: sc-154072-V.

TARDBP (H-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

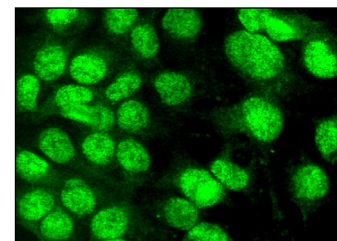
Molecular Weight of TARDBP: 43 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

DATA



TARDBP (H-8): sc-376532. Western blot analysis of TARDBP expression in A-431 (A), Hep G2 (B), K-562 (C) and NIH/3T3 (D) whole cell lysates and rat brain tissue extract (E).



TARDBP (H-8): sc-376532. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Gu, J., et al. 2017. TDP-43 suppresses Tau expression via promoting its mRNA instability. *Nucleic Acids Res.* 45: 6177-6193.
2. Singatulina, A.S., et al. 2019. PARP-1 activation directs FUS to DNA damage sites to form PARG-reversible compartments enriched in damaged DNA. *Cell Rep.* 27: 1809-1821.e5.
3. Rathore, A., et al. 2020. CRISPR-based gene knockout screens reveal deubiquitinases involved in HIV-1 latency in two Jurkat cell models. *Sci. Rep.* 10: 5350.
4. Amen, T., et al. 2021. Stress granules inhibit fatty acid oxidation by modulating mitochondrial permeability. *Cell Rep.* 35: 109237.
5. Peggion, C., et al. 2021. Nucleolin rescues TDP-43 toxicity in yeast and human cell models. *Front. Cell. Neurosci.* 15: 625665.

RESEARCH USE

For research use only, not for use in diagnostic procedures.