

TARDBP (E-10): sc-376311

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.

REFERENCE

- 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.
- 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.
- 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 (E-10) 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 IgG_{2a} 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-376311 X, 200 µg/0.1 ml.

TARDBP (E-10) is available conjugated to agarose (sc-376311 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376311 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376311 PE), fluorescein (sc-376311 FITC), Alexa Fluor® 488 (sc-376311 AF488), Alexa Fluor® 546 (sc-376311 AF546), Alexa Fluor® 594 (sc-376311 AF594) or Alexa Fluor® 647 (sc-376311 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376311 AF680) or Alexa Fluor® 790 (sc-376311 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 (E-10) 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), immunohistochemistry (including paraffin-embedded sections) (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 (E-10) is also recommended for detection of TARDBP in additional species, including equine, canine and bovine.

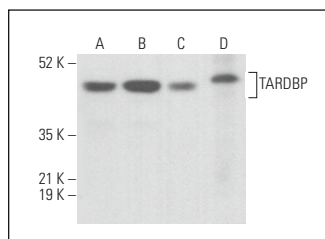
Suitable for use as control antibody for TARDBP siRNA (h): sc-88586, TARDBP siRNA (m): sc-154072, TARDBP shRNA Plasmid (h): sc-88586-SH, TARDBP shRNA Plasmid (m): sc-154072-SH, TARDBP shRNA (h) Lentiviral Particles: sc-88586-V and TARDBP shRNA (m) Lentiviral Particles: sc-154072-V.

TARDBP (E-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

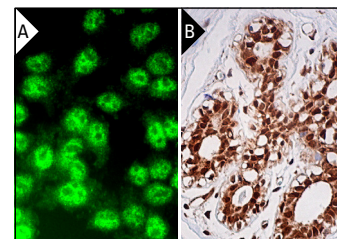
Molecular Weight of TARDBP: 43 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, WEHI-231 whole cell lysate: sc-2213 or RAW 264.7 whole cell lysate: sc-2211.

DATA



TARDBP (E-10): sc-376311. Western blot analysis of TARDBP expression in RAW 264.7 (A), WEHI-231 (B) and MCF7 (C) whole cell lysates and rat breast tissue extract (D).



TARDBP (E-10): sc-376311. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing nuclear and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Jung, E.J., et al. 2016. Proteomic analysis of novel targets associated with the enhancement of TrkA-induced SK-N-MC cancer cell death caused by NGF. *Exp. Mol. Med.* 48: e235.
- Park, S., et al. 2023. The mammalian midbody and midbody remnant are assembly sites for RNA and localized translation. *Dev. Cell* 58: 1917-1932.e6.
- Fontana, E., 2024. Detection of TDP-43 seeding activity in the olfactory mucosa from patients with frontotemporal dementia. *Alzheimers Dement.* 20: 1156-1165.

RESEARCH USE

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