SANTA CRUZ BIOTECHNOLOGY, INC.

TARDBP (41-7.1): sc-100871

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 neuro-degenerative disorders. Due to alternative splicing events, various isoforms exist for TARDBP.

CHROMOSOMAL LOCATION

Genetic locus: TARDBP (human) mapping to 1p36.22.

SOURCE

TARDBP (41-7.1) is a mouse monoclonal antibody raised against recombinant TARDBP of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

TARDBP (41-7.1) is recommended for detection of TARDBP of human origin by Western Blotting (starting dilution 1:200, 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).

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

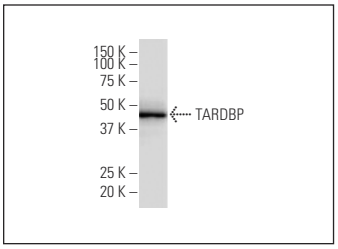
Molecular Weight of TARDBP: 43 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or Jurkat whole cell lysate: sc-2204.

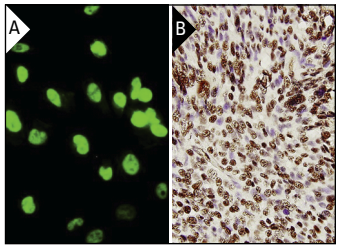
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TARDBP (41-7.1): sc-100871. Western blot analysis of TARDBP expression in A-431 whole cell lysate.



TARDBP (41-7.1): sc-100871. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human leiomyosarcoma tissue showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Scotter, E.L., et al. 2014. Differential roles of the ubiquitin proteasome system and autophagy in the clearance of soluble and aggregated TDP-43 species. J. Cell Sci. 127: 1263-1278.
2. Alami, N.H., et al. 2014. Axonal transport of TDP-43 mRNA granules is impaired by ALS-causing mutations. Neuron 81: 536-543.
3. Crippa, V., et al. 2016. The chaperone HSPB8 reduces the accumulation of truncated TDP-43 species in cells and protects against TDP-43-mediated toxicity. Hum. Mol. Genet. 25: 3908-3924.
4. Hill, S.J., et al. 2016. Two familial ALS proteins function in prevention/repair of transcription-associated DNA damage. Proc. Natl. Acad. Sci. USA 113: E7701-E7709.
5. Mateju, D., et al. 2017. An aberrant phase transition of stress granules triggered by misfolded protein and prevented by chaperone function. EMBO J. 36: 1669-1687.
6. Yang, L.T., et al. 2020. Restoration of Mal overcomes the defects of apoptosis in lung cancer cells. PLoS ONE 15: e0227634.

RESEARCH USE

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