

TDRD7 (H-105): sc-135428

BACKGROUND

TDRD7 (tudor domain containing 7), also known as TRAP, CATC4 or PCTAIRE-2BP, is a 1,098 amino acid cytoplasmic protein that localizes to RNA granules. TDRD7 is present in the chromatoid body (CB) of spermatids and is detected in the intermitochondrial cementin of pachytene spermatocytes. TDRD7 contains three lotus/OST-HTH domains and two tudor domains, and forms a mRNP complex with TDRD1, TDRD6 and VASA. TDRD7 is a component of cytoplasmic RNA granules involved in post-transcriptional regulation of specific genes. Required for lens transparency during lens development, TDRD7 is also required during spermatogenesis. Mutations in the gene encoding TDRD7 leads to cataract congenital autosomal recessive type 4 (CATC4), which is characterized by an opacification of the crystalline lens of the eye. TDRD7 exists as three alternatively spliced isoforms and is encoded by a gene located on human chromosome 9q22.33.

REFERENCES

- Hirose, T., et al. 2000. Identification of tudor repeat associator with PCTAIRE 2 (Trap). A novel protein that interacts with the N-terminal domain of PCTAIRE 2 in rat brain. *Eur. J. Biochem.* 267: 2113-2121.
- Yamochi, T., et al. 2001. ik3-1/Cables is associated with Trap and Pctaire2. *Biochem. Biophys. Res. Commun.* 286: 1045-1050.
- Hosokawa, M., et al. 2007. Tudor-related proteins TDRD1/MTR-1, TDRD6 and TDRD7/TRAP: domain composition, intracellular localization, and function in male germ cells in mice. *Dev. Biol.* 301: 38-52.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611258. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Skorokhod, O., et al. 2008. Generation and characterization of monoclonal antibodies to TDRD7 protein. *Hybridoma* 27: 211-216.
- Callebaut, I. and Morion, J.P. 2010. LOTUS, a new domain associated with small RNA pathways in the germline. *Bioinformatics* 26: 1140-1144.
- Anantharaman, V., et al. 2010. OST-HTH: a novel predicted RNA-binding domain. *Biol. Direct* 5: 13.
- Tanaka, T., et al. 2011. Tudor domain containing 7 (Tdrd7) is essential for dynamic ribonucleoprotein (RNP) remodeling of chromatoid bodies during spermatogenesis. *Proc. Natl. Acad. Sci. USA* 108: 10579-10584.

CHROMOSOMAL LOCATION

Genetic locus: TDRD7 (human) mapping to 9q22.33; Tdrd7 (mouse) mapping to 4 B1.

SOURCE

TDRD7 (H-105) is a rabbit polyclonal antibody raised against amino acids 911-1015 mapping near the C-terminus of TDRD7 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TDRD7 (H-105) is recommended for detection of TDRD7 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TDRD7 (H-105) is also recommended for detection of TDRD7 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for TDRD7 siRNA (h): sc-92710, TDRD7 siRNA (m): sc-154168, TDRD7 shRNA Plasmid (h): sc-92710-SH, TDRD7 shRNA Plasmid (m): sc-154168-SH, TDRD7 shRNA (h) Lentiviral Particles: sc-92710-V and TDRD7 shRNA (m) Lentiviral Particles: sc-154168-V.

Molecular Weight of TDRD7: 160 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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