

**TTDN1 (F-8): sc-393079**

The Power to Question

**BACKGROUND**

TTDN1 (TTD non-photosensitive 1 protein), also known as C7orf11, ABHS or ORF20, is a 179 amino acid protein that localizes to the nucleus and shares 92% amino acid identity with its mouse counterpart. Expressed at high levels in kidney and liver and present at lower levels in placenta, heart, skeletal muscle, pancreas, lung and brain tissue, TTDN1 is thought to be involved in the maintenance of cell cycle integrity, specifically playing a role in the regulation of mitosis and cytokinesis. Defects in the gene encoding TTDN1 are associated with trichothiodystrophy non-photosensitive type 1 (TTDN1), which is also known as Amish brittle hair brain syndrome (ABHS) and is an autosomal recessive disorder that is characterized by decreased male fertility, short stature and brittle hair.

**REFERENCES**

1. Jackson, C.E., et al. 1974. "Brittle" hair with short stature, intellectual impairment and decreased fertility: an autosomal recessive syndrome in an Amish kindred. *Pediatrics* 54: 201-207.
2. Rizzo, R., et al. 1992. Trichothiodystrophy: report of a new case with severe nervous system impairment. *J. Child Neurol.* 7: 300-303.
3. Nakabayashi, K., et al. 2002. Molecular genetic studies of human chromosome 7 in Russell-Silver syndrome. *Genomics* 79: 186-196.
4. Nakabayashi, K., et al. 2005. Identification of C7orf11 (TTDN1) gene mutations and genetic heterogeneity in nonphotosensitive trichothiodystrophy. *Am. J. Hum. Genet.* 76: 510-516.
5. Zhang, Y., et al. 2007. TTDN1 is a Plk1-interacting protein involved in maintenance of cell cycle integrity. *Cell. Mol. Life Sci.* 64: 632-640.
6. Botta, E., et al. 2007. Mutations in the C7orf11 (TTDN1) gene in six non-photosensitive trichothiodystrophy patients: no obvious genotype-phenotype relationships. *Hum. Mutat.* 28: 92-96.

**CHROMOSOMAL LOCATION**

Genetic locus: MPLKIP (human) mapping to 7p14.1; Mplkip (mouse) mapping to 13 A2.

**SOURCE**

TTDN1 (F-8) is a mouse monoclonal antibody raised against amino acids 1-179 representing full length TTDN1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TTDN1 (F-8) is available conjugated to agarose (sc-393079 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393079 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393079 PE), fluorescein (sc-393079 FITC), Alexa Fluor® 488 (sc-393079 AF488), Alexa Fluor® 546 (sc-393079 AF546), Alexa Fluor® 594 (sc-393079 AF594) or Alexa Fluor® 647 (sc-393079 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393079 AF680) or Alexa Fluor® 790 (sc-393079 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**APPLICATIONS**

TTDN1 (F-8) is recommended for detection of TTDN1 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).

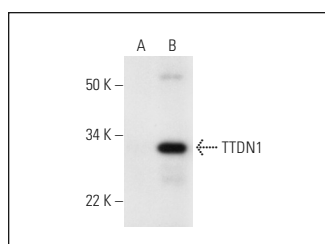
Suitable for use as control antibody for TTDN1 siRNA (h): sc-76770, TTDN1 siRNA (m): sc-76771, TTDN1 shRNA Plasmid (h): sc-76770-SH, TTDN1 shRNA Plasmid (m): sc-76771-SH, TTDN1 shRNA (h) Lentiviral Particles: sc-76770-V and TTDN1 shRNA (m) Lentiviral Particles: sc-76771-V.

Molecular Weight of TTDN1: 19 kDa.

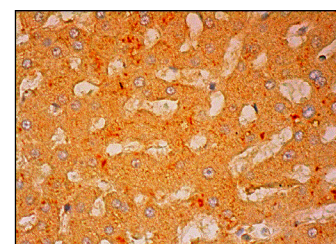
Positive Controls: TTDN1 (h): 293T Lysate: sc-370932.

**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**

TTDN1 (F-8): sc-393079. Western blot analysis of TTDN1 expression in non-transfected: sc-117752 (A) and human TTDN1 transfected: sc-370932 (B) 293T whole cell lysates.



TTDN1 (F-8): sc-393079. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic staining of hepatocytes.

**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.

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