

TTC3 (F-19): sc-49563

BACKGROUND

Down syndrome is characterized by an extra copy of chromosome 21. The Down syndrome critical region (DSCR) maps specifically to chromosome 21q22.13 and includes several genes, which are likely associated with the pathogenesis of Down syndrome. Tetratricopeptide repeat domain 3 (TTC3), also referred to as DCRR1, is a 1,941 amino acid member of the DSCR family that contains 3 tetratricopeptide repeat (TPR) motifs, an N-terminal domain that is similar to many protein phosphatases, a transmembrane domain, and a C-terminal region that resembles Myosin heavy chains or proteins involved with cytoskeleton dynamics, including CENPE. TTC3 is expressed in several tissues, including spleen, thymus, prostate and ovary, but not in placenta, lung or liver. Overexpression of TTC3 may be the cause of many various morphologic anomalies that occur in Down syndrome.

REFERENCES

- Ohira, M., et al. 1996. Identification of a novel human gene containing the tetratricopeptide repeat domain from the Down syndrome region of chromosome 21. *DNA Res.* 3: 9-16.
- Eki, T., et al. 1997. Cloning and characterization of novel gene, DCRR1, expressed from Down's syndrome critical region of human chromosome 21q22.2. *DNA Seq.* 7: 153-164.
- Tsukahara, F., et al. 1997. Identification and cloning of a novel cDNA belonging to tetratricopeptide repeat gene family from Down syndrome critical region 21q22.2. *J. Biochem.* 120: 820-827.
- Tsukahara, F., et al. 1998. Molecular characterization of the mouse MTPRD gene, a homologue of human TPRD: unique gene expression suggesting its critical role in the pathophysiology of Down syndrome. *J. Biochem.* 123: 1055-1063.
- Dahmane, N., et al. 1998. Transcriptional map of the 2.5-Mb CBR-ERG region of chromosome 21 involved in Down syndrome. *Genomics* 48: 12-23.
- Taipale, M., et al. 2003. A candidate gene for developmental dyslexia encodes a nuclear tetratricopeptide repeat domain protein dynamically regulated in brain. *Proc. Natl. Acad. Sci. USA* 100: 11553-11558.
- Bergholdt, R., et al. 2005. Fine mapping of a region on chromosome 21q21.11-q22.3 showing linkage to type 1 diabetes. *J. Med. Genet.* 42: 17-25.
- Main, E.R., et al. 2005. Local and long-range stability in tandemly arrayed tetratricopeptide repeats. *Proc. Natl. Acad. Sci. USA* 102: 5721-5726.

CHROMOSOMAL LOCATION

Genetic locus: TTC3 (human) mapping to 21q22.13; Ttc3 (mouse) mapping to 16 C4.

SOURCE

TTC3 (F-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TTC3 of human origin.

RESEARCH USE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-49563 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TTC3 (F-19) is recommended for detection of TTC3 isoforms 1,2 and 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TTC3 (F-19) is also recommended for detection of TTC3 isoforms 1,2 and 3 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for TTC3 siRNA (h): sc-61732, TTC3 siRNA (m): sc-61733, TTC3 shRNA Plasmid (h): sc-61732-SH, TTC3 shRNA Plasmid (m): sc-61733-SH, TTC3 shRNA (h) Lentiviral Particles: sc-61732-V and TTC3 shRNA (m) Lentiviral Particles: sc-61733-V.

Molecular Weight of TTC3: 230 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.

PROTOCOLS

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