

# MTHFSD (T-15): sc-82235

## BACKGROUND

MTHFSD (methyltetrahydrofolate synthetase domain-containing protein) is a 383 amino acid protein that contains one RRM (RNA recognition motif) domain, which suggests that MTHFSD functions as a RNA-binding protein. The RRM domain consists of four strands and two helices arranged in an  $\alpha/\beta$  sandwich. The gene encoding MTHFSD maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition. There are two isoforms of MTHFSD that are produced as a result of alternative splicing events.

## REFERENCES

1. Gilbert, F. 1999. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 16. Genet. Test.* 3: 243-254.
2. Martin, J., Han, C., Gordon, L.A., Terry, A., Prabhakar, S., She, X., Xie, G., Hellsten, U., Chan, Y.M., Altherr, M., Couronne, O., Aerts, A., Bajorek, E., Black, S., Blumer, H., Branscomb, E., et al. 2004. The sequence and analysis of duplication-rich human chromosome 16. *Nature* 432: 988-994.
3. Maris, C., Dominguez, C. and Allain, F.H. 2005. The RNA recognition motif, a plastic RNA-binding platform to regulate post-transcriptional gene expression. *FEBS J.* 272: 2118-2131.
4. Clery, A., Blatter, M. and Allain, F.H. 2008. RNA recognition motifs: boring? Not quite. *Curr. Opin. Struct. Biol.* 18: 290-298.
5. Shaw-Smith, C. 2009. Genetic factors in esophageal atresia, tracheo-esophageal fistula and the VACTERL association: Roles for FOXF1 and the 16q24.1 FOX transcription factor gene cluster, and review of the literature. *Eur. J. Med. Genet.* 53: 6-13.

## CHROMOSOMAL LOCATION

Genetic locus: MTHFSD (human) mapping to 16q24.1; Mthfsd (mouse) mapping to 8 E1.

## SOURCE

MTHFSD (T-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MTHFSD of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82235 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

MTHFSD (T-15) is recommended for detection of MTHFSD 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).

MTHFSD (T-15) is also recommended for detection of MTHFSD in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MTHFSD siRNA (h): sc-75840, MTHFSD siRNA (m): sc-75841, MTHFSD shRNA Plasmid (h): sc-75840-SH, MTHFSD shRNA Plasmid (m): sc-75841-SH, MTHFSD shRNA (h) Lentiviral Particles: sc-75840-V and MTHFSD shRNA (m) Lentiviral Particles: sc-75841-V.

Molecular Weight of MTHFSD: 42 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.