

MFSD8 (S-14): sc-165012

BACKGROUND

The major facilitator superfamily consists of presumed carbohydrate transporters with 10 to 12 membrane-spanning domains. MFSD8 (major facilitator superfamily domain containing 8), also known as CLN7 (ceroid-lipofuscinosis neuronal protein 7), is a 518 amino acid multi-pass membrane protein of the lysosome that is thought to function as a carrier protein that transports small solutes by way of chemiosmotic ion gradients. Expressed at low levels in many tissues, MFSD8 is encoded by a gene that maps to human chromosome 4q28.2. Defects in the gene encoding MFSD8 are the cause of a late infantile neuronal ceroid lipofuscinosis known as neuronal ceroid lipofuscinosis type 7 (CLN7). CLN7 is characterized by seizures, progressive dementia and visual failure.

REFERENCES

1. Wheeler, R.B., et al. 1999. A new locus for variant late infantile neuronal ceroid lipofuscinosis-CLN7. *Mol. Genet. Metab.* 66: 337-338.
2. Mitchell, W.A., et al. 2001. Turkish variant late infantile neuronal ceroid lipofuscinosis (CLN7) may be allelic to CLN8. *Eur. J. Paediatr. Neurol.* 5: 21-27.
3. Siintola, E., et al. 2007. The novel neuronal ceroid lipofuscinosis gene MFSD8 encodes a putative lysosomal transporter. *Am. J. Hum. Genet.* 81: 136-146.
4. Kousi, M., et al. 2009. Mutations in CLN7/MFSD8 are a common cause of variant late-infantile neuronal ceroid lipofuscinosis. *Brain* 132: 810-819.
5. Aiello, C., et al. 2009. Mutations in MFSD8/CLN7 are a frequent cause of variant-late infantile neuronal ceroid lipofuscinosis. *Hum. Mutat.* 30: E530-E540.
6. Stogmann, E., et al. 2009. A novel mutation in the MFSD8 gene in late infantile neuronal ceroid lipofuscinosis. *Neurogenetics* 10: 73-77.
7. Aldahmesh, M.A., et al. 2009. Neuronal ceroid lipofuscinosis caused by MFSD8 mutations: a common theme emerging. *Neurogenetics* 10: 307-311.
8. Sharifi, A., et al. 2010. Expression and lysosomal targeting of CLN7, a major facilitator superfamily transporter associated with variant late-infantile neuronal ceroid lipofuscinosis. *Hum. Mol. Genet.* 19: 4497-4514.

CHROMOSOMAL LOCATION

Genetic locus: MFSD8 (human) mapping to 4q28.2; Mfsd8 (mouse) mapping to 3 B.

SOURCE

MFSD8 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of MFSD8 of human origin.

STORAGE

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

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-165012 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MFSD8 (S-14) is recommended for detection of MFSD8 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); non cross-reactive with other MFSD family members.

Suitable for use as control antibody for MFSD8 siRNA (h): sc-89155, MFSD8 siRNA (m): sc-149411, MFSD8 shRNA Plasmid (h): sc-89155-SH, MFSD8 shRNA Plasmid (m): sc-149411-SH, MFSD8 shRNA (h) Lentiviral Particles: sc-89155-V and MFSD8 shRNA (m) Lentiviral Particles: sc-149411-V.

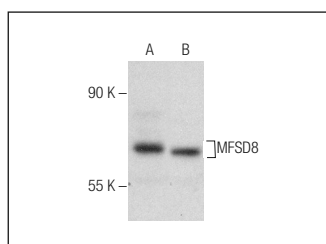
Molecular Weight of MFSD8: 58 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232 or MDA-MB-435S whole cell lysate.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



MFSD8 (S-14): sc-165012. Western blot analysis of MFSD8 expression in MDA-MB-231 (A) and MDA-MB-435S (B) whole cell lysates.

RESEARCH USE

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