SANTA CRUZ BIOTECHNOLOGY, INC.

MFSD7 (P-13): sc-138424

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The Power to Question

BACKGROUND

The major facilitator superfamily consists of presumed carbohydrate transporters with ten to twelve membrane-spanning domains. MFSD7 (major facilitator superfamily domain-containing protein 7), also known as LP2561, is a 560 amino acid multi-pass membrane protein that belongs to the major facilitator superfamily. Existing as three alternatively spliced isoforms, MFSD7 is likely a carrier that transports small solutes by using chemiosmotic ion gradients. Significantly, a related protein, MFSD2, may play a role in placenta morphogenesis and may also be involved in adaptive thermogenesis. The gene encoding MFSD7 maps to human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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3. Versteegh, F.G., et al. 2007. EvC Working Party. Growth hormone analysis and treatment in Ellis-van Creveld syndrome. Am. J. Med. Genet. A 143: 2113-2121.
4. Angers, M., et al. 2008. Mfsd2a encodes a novel major facilitator superfamily domain-containing protein highly induced in brown adipose tissue during fasting and adaptive thermogenesis. Biochem. J. 416: 347-355.
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6. Fluman, N. and Bibi, E. 2009. Bacterial multidrug transport through the lens of the major facilitator superfamily. Biochim. Biophys. Acta 1794: 738-747.
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CHROMOSOMAL LOCATION

Genetic locus: MFSD7 (human) mapping to 4p16.3; Mfsd7a (mouse) mapping to 5 F.

SOURCE

MFSD7 (P-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MFSD7 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138424 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MFSD7 (P-13) is recommended for detection of MFSD7 isoforms 1-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) 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 MFSD7 siRNA (h): sc-88870, MFSD7 siRNA (m): sc-149410, MFSD7 shRNA Plasmid (h): sc-88870-SH, MFSD7 shRNA Plasmid (m): sc-149410-SH, MFSD7 shRNA (h) Lentiviral Particles: sc-88870-V and MFSD7 shRNA (m) Lentiviral Particles: sc-149410-V.

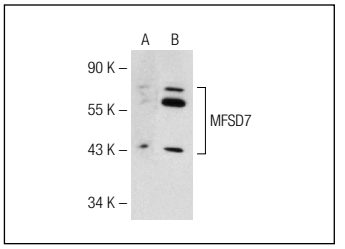
Molecular Weight of MFSD7 isoforms: 58/46 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MCF7 whole cell lysate: sc-2206 or MFSD7 (m): 293T Lysate: sc-121627.

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.

DATA



MFSD7 (P-13): sc-138424. Western blot analysis of MFSD7 expression in non-transfected: sc-117752 (**A**) and mouse MFSD7 transfected: sc-121627 (**B**) 293T whole cell lysates.

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.