SANTA CRUZ BIOTECHNOLOGY, INC.

MFSD7 (B-7): sc-390083

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The major facilitator superfamily consists of presumed carbohydrate transporters with 10 to 12 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

1. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
2. Jenkins, B.G., et al. 2007. Neuroprotective effects of synaptic modulation in Huntington's disease R6/2 mice. J. Neurosci. 27: 12908-12915.
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 143A: 2113-2121.

CHROMOSOMAL LOCATION

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

SOURCE

MFSD7 (B-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 293-325 within an internal region of MFSD7 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MFSD7 (B-7) is available conjugated to agarose (sc-390083 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390083 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390083 PE), fluorescein (sc-390083 FITC), Alexa Fluor® 488 (sc-390083 AF488), Alexa Fluor® 546 (sc-390083 AF546), Alexa Fluor® 594 (sc-390083 AF594) or Alexa Fluor® 647 (sc-390083 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390083 AF680) or Alexa Fluor® 790 (sc-390083 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390083 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MFSD7 (B-7) is recommended for detection of MFSD7 isoforms 1-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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 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.

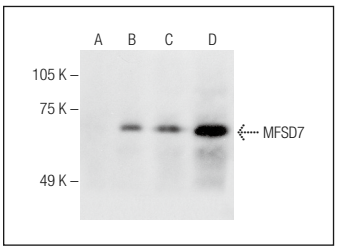
Molecular Weight of MFSD7 isoforms: 58/46 kDa.

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

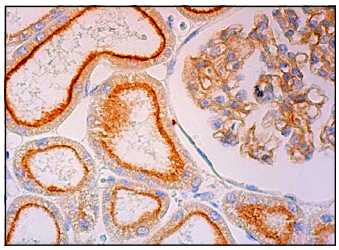
RECOMMENDED SUPPORT REAGENTS

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



MFSD7 (B-7): sc-390083. Western blot analysis of MFSD7 expression in non-transfected 293T: sc-117752 (**A**), mouse MFSD7 transfected 293T: sc-121627 (**B**), MCF7 (**C**) and HeLa (**D**) whole cell lysates.



MFSD7 (B-7): sc-390083. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cells in tubules.

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.