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antibody and ELISA experts

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Anti-MFSD12 Antibody Picoband®

Catalog Number: A16855-1

About MFSD12

The major facilitator superfamily consists of presumed carbohydrate transporters with 10-12 membrane-spanning domains. MFSD12 (major facilitator superfamily domain containing 12), also known as PP3501 or C19orf28, is a 480 amino acid multi-pass membrane protein that belongs to the major facilitator superfamily. Existing as two alternatively spliced isoforms, MFSD12 is encoded by a gene that maps to human chromosome 19p13.3. Chromosome 19 consists of over 63 million bases, houses approximately 1,400 genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin (Ig) superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG families, and Fc receptors (FcRs).

Overview

Product Name	Anti-MFSD12 Antibody Picoband®
Reactive Species	Human
Description	Boster Bio Anti-MFSD12 Antibody Picoband® catalog # A16855-1. Tested in ELISA, IHC, WB applications. This antibody reacts with Human. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Storage Instructions	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.
Host	Rabbit
Uniprot ID	Q6NUT3

Technical Details

Immunogen	E.coli-derived human MFSD12 recombinant protein (Position: Q66-H443). Human MFSD12 shares 86.8% amino acid (aa) sequence identity with mouse MFSD12.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross reactivity with other proteins.
Isotype	IgG

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Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 µg/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human ELISA, 0.1-0.5 ug/ml, -

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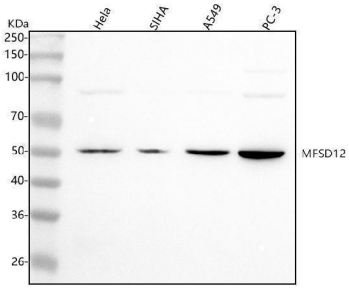
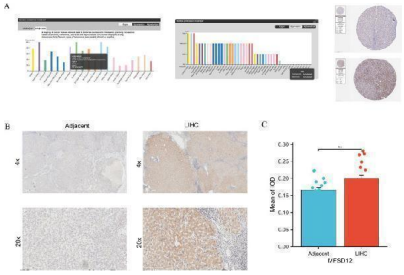
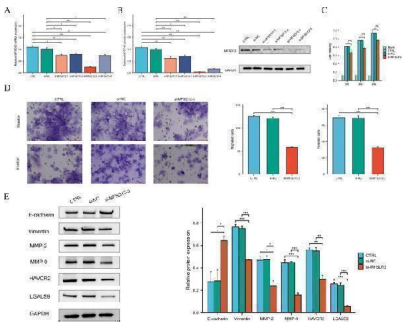
Anti-MFSD12 Antibody Picoband® (A16855-1) Images



Western blot analysis of MFSD12 using anti-MFSD12 antibody (A16855-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela whole cell lysates, Lane 2: human SiHa whole cell lysates, Lane 3: human A549 whole cell lysates, Lane 4: human PC-3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MFSD12 antigen affinity purified polyclonal antibody (Catalog # A16855-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for MFSD12 at approximately 52 kDa. The expected band size for MFSD12 is at 52 kDa.



The protein expression analysis of MFSD12. (A) Pan-cancer protein expression profile of MFSD12 and representative IHC staining of tissue microarrays in HPA database. (B) IHC analysis of MFSD12 in LIHC tumor tissues and paired adjacent non-tumor liver tissues. (C) Quantification of immunostains for MFSD12 by IOD analysis. * P < 0.05, ** P < 0.01. IHC, immunohistochemistry; HPA, Human Protein Atlas; LIHC, liver hepatocellular carcinoma; IOD, integrated optical density;.Index in PubMed under a CC BY license. PMID: 41194934



The knockdown of MFSD12 inhibited the proliferation, migration, and invasion of LIHC cells, as well as the TIM-3/Galectin-9 signaling pathway. (A, B) RT-qPCR and Western blot validation of MFSD12 silencing efficiency using siRNAs (si-MFSD12–1 to −4) with GAPDH as loading control. (C) CCK-8 cell viability assay showing reduced HEP 3B2.1–7 cells proliferation after MFSD12 knockdown (si-MFSD12-3). (D) Transwell assay revealed a reduction in the migratory and invasive capabilities of HEP 3B2.1–7 cells following the knockdown of MFSD12. (E) Immunoblot analysis of EMT markers and TIM-3 axis components showing up-regulation of E-cadherin and down-regulation of Vimentin, MMP-2, MMP-9, HAVCR2 (TIM-3) and LGALS9 in si-MFSD12-treated cells. * P

IHC analysis of MFSD12 using anti-MFSD12 antibody (A16855-1). MFSD12 was detected in a paraffin-embedded section of human testicular seminoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0,

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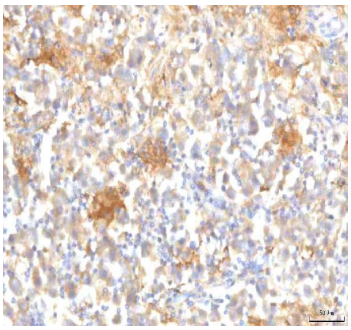
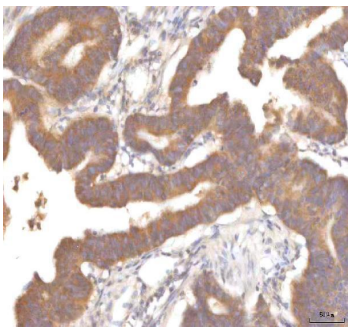


epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MFSD12 Antibody (A16855-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.



IHC analysis of MFSD12 using anti-MFSD12 antibody (A16855-1). MFSD12 was detected in a paraffin-embedded section of human colon adenocarcinoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MFSD12 Antibody (A16855-1) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

Anti-MFSD12 Antibody

For Research Use Only. Not for use in diagnostic procedures.