

MESDC2 (N-13): sc-139396

BACKGROUND

MESDC2 (mesoderm development candidate 2), also known as BOCA or MESD, is a 234 amino acid endoplasmic reticulum protein belonging to the MESD family. Considered a chaperone protein, MESDC2 specifically assists in folding β -propeller/EGF modules within the family of low-density lipoprotein receptors (LDLRs) through N- and C-terminal unstructured regions. MESDC2 modulates the Wnt pathway by chaperoning coreceptors LRP5 and LRP6 to the plasma membrane, and is essential for mesoderm induction and embryonic polarity. The gene encoding MESDC2 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

- Nagase, T., et al. 1995. Prediction of the coding sequences of unidentified human genes. III. The coding sequences of 40 new genes (KIAA0081-KIAA0120) deduced by analysis of cDNA clones from human cell line KG-1. *DNA Res.* 2: 37-43.
- Wines, M.E., et al. 2001. Identification of mesoderm development (mesd) candidate genes by comparative mapping and genome sequence analysis. *Genomics* 72: 88-98.
- Culi, J. and Mann, R.S. 2003. Boca, an endoplasmic reticulum protein required for wingless signaling and trafficking of LDL receptor family members in *Drosophila*. *Cell* 112: 343-354.
- Hsieh, J.C., et al. 2003. Mesd encodes an LRP5/6 chaperone essential for specification of mouse embryonic polarity. *Cell* 112: 355-367.
- Veltman, I.M., et al. 2005. Fusion of the SUMO/Sentrin-specific protease 1 gene SENP1 and the embryonic polarity-related mesoderm development gene MESDC2 in a patient with an infantile teratoma and a constitutional t(12;15)(q13;q25). *Hum. Mol. Genet.* 14: 1955-1963.
- Li, Y., et al. 2006. Modulation of LRP6-mediated Wnt signaling by molecular chaperone Mesd. *FEBS Lett.* 580: 5423-5428.
- Köhler, C., et al. 2006. The solution structure of the core of mesoderm development (MESD), a chaperone for members of the LDLR-family. *J. Struct. Funct. Genomics* 7: 131-138.
- Chen, J., et al. 2011. Two structural and functional domains of MESD required for proper folding and trafficking of LRP5/6. *Structure* 19: 313-323.

CHROMOSOMAL LOCATION

Genetic locus: MESDC2 (human) mapping to 15q25.1; Mesdc2 (mouse) mapping to 7 D3.

SOURCE

MESDC2 (N-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of MESDC2 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 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139396 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MESDC2 (N-13) is recommended for detection of MESDC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g 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 MESDC1.

Suitable for use as control antibody for MESDC2 siRNA (h): sc-90278, MESDC2 siRNA (m): sc-149371, MESDC2 shRNA Plasmid (h): sc-90278-SH, MESDC2 shRNA Plasmid (m): sc-149371-SH, MESDC2 shRNA (h) Lentiviral Particles: sc-90278-V and MESDC2 shRNA (m) Lentiviral Particles: sc-149371-V.

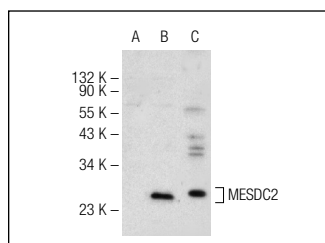
Molecular Weight of MESDC2: 26 kDa.

Positive Controls: MESDC2 (m): 293T Lysate: sc-127144 or Jurkat whole cell lysate: sc-2204.

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



MESDC2 (N-13): sc-139396. Western blot analysis of MESDC2 expression in non-transfected 293T: sc-117752 (A), mouse MESDC2 transfected 293T: sc-127144 (B) and Jurkat (C) whole cell lysates.

RESEARCH USE

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