

MESP1 (P-13): sc-163076

BACKGROUND

MESP1 (mesoderm posterior 1 homolog), also known as bHLHc5, is a 268 amino acid protein that contains one basic helix-loop-helix (bHLH) domain, a motif that mediates protein dimerization and can bind to the E-box sequence of DNA. Localized to the nucleus, MESP1 functions as a transcription factor that, via its bHLH domain, participates in the epithelialization and the development of the cardiac and somitic mesoderm. MESP1 is highly expressed during gastrulation and somitogenesis and is necessary for the formation of single heart tubes during cardiac maturation. Early detection of MESP1 may be an indicator of the formation of cardiac precursor cells in developing embryos. Additionally, MESP1 plays a role in the rostrocaudal patterning of the somites, an event that influences select Notch signaling pathways.

REFERENCES

1. Saga, Y., et al. 1996. MesP1: a novel basic helix-loop-helix protein expressed in the nascent mesodermal cells during mouse gastrulation. *Development* 122: 2769-2778.
2. Saga, Y., et al. 1999. MesP1 is expressed in the heart precursor cells and required for the formation of a single heart tube. *Development* 126: 3437-3447.
3. Kitajima, S., et al. 2000. MesP1 and MesP2 are essential for the development of cardiac mesoderm. *Development* 127: 3215-3226.
4. Saga, Y., et al. 2000. Mesp1 expression is the earliest sign of cardiovascular development. *Trends Cardiovasc. Med.* 10: 345-352.
5. Haraguchi, S., et al. 2001. Transcriptional regulation of Mesp1 and Mesp2 genes: differential usage of enhancers during development. *Mech. Dev.* 108: 59-69.
6. Whittock, N.V., et al. 2004. Mutated MESP2 causes spondylocostal dysostosis in humans. *Am. J. Hum. Genet.* 74: 1249-1254.
7. Lindsley, R.C., et al. 2008. Mesp1 coordinately regulates cardiovascular fate restriction and epithelial-mesenchymal transition in differentiating ESCs. *Cell Stem Cell* 3: 55-68.
8. Bondue, A., et al. 2008. Mesp1 acts as a master regulator of multipotent cardiovascular progenitor specification. *Cell Stem Cell* 3: 69-84.
9. David, R., et al. 2008. MesP1 drives vertebrate cardiovascular differentiation through Dkk-1-mediated blockade of Wnt-signalling. *Nat. Cell Biol.* 10: 338-345.

CHROMOSOMAL LOCATION

Genetic locus: MESP1 (human) mapping to 15q26.1.

SOURCE

MESP1 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MESP1 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-163076 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MESP1 (P-13) is recommended for detection of MESP1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immuno-nofluorescence (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 MESP2.

Suitable for use as control antibody for MESP1 siRNA (h): sc-90138, MESP1 shRNA Plasmid (h): sc-90138-SH and MESP1 shRNA (h) Lentiviral Particles: sc-90138-V.

Molecular Weight of MESP1: 29 kDa.

Positive Controls: FHs 173We cell lysate: sc-2417.

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) 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.

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.


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Try **MESP1 (JH.12): sc-130461**, our highly recommended monoclonal alternative to MESP1 (P-13).