

MOX-2 (F-7): sc-390075

BACKGROUND

Closely related homeobox proteins, MOX-1 and MOX-2, belong to a family of nonclustered, diverged homeobox genes that are expressed in overlapping patterns in the paraxial mesoderm and its derivatives. MOX-1 and MOX-2 function transiently in the formation of mesodermal and mesenchymal derivatives. MOX-1 and MOX-2 are implicated in the early steps of mesoderm formation during gastrulation. In addition, the MOX proteins are also involved in somatic differentiation. Significantly, MOX-1 associates more strongly with Pax-1, whereas MOX-2 preferentially associates with Pax-3. Specifically, expression of MOX-2 (also known as mesenchyme homeobox 2 or GAX), has been shown to be critical in axial skeleton development. MOX-2 is not needed for the migration of myogenic precursors into the limb bud, but it is essential for normal appendicular muscle formation and for the normal regulation of myogenic genes. MOX-2 is expressed in placental tissue. The human MEOX2 gene maps to chromosome 7p21.2 and encodes the MOX-2 protein. Mutations in the gene may be involved in craniofacial and/or skeletal abnormalities.

REFERENCES

1. Candia, A.F., et al. 1992. MOX-1 and MOX-2 define a novel homeobox gene subfamily and are differentially expressed during early mesodermal patterning in mouse embryos. *Development* 116: 1123-1136.
2. Candia, A.F. and Wright, C.V. 1996. Differential localization of MOX-1 and MOX-2 proteins indicates distinct roles during development. *Int. J. Dev. Biol.* 40: 1179-1184.
3. Stelnicki, E.J., et al. 1997. The human homeobox genes Msx-1, Msx-2, and MOX-1 are differentially expressed in the dermis and epidermis in fetal and adult skin. *Differentiation* 62: 33-41.
4. Mankoo, B.S., et al. 1999. MOX-2 is a component of the genetic hierarchy controlling limb muscle development. *Nature* 400: 69-73.
5. Quinn, L.M., et al. 2000. The homeobox genes Msx-2 and MOX-2 are candidates for regulating epithelial-mesenchymal cell interactions in the human placenta. *Placenta* 21: S50-S54.
6. Stamatakis, D., et al. 2001. Homeodomain proteins MOX-1 and MOX-2 associate with Pax-1 and Pax-3 transcription factors. *FEBS Lett.* 499: 274-278.

CHROMOSOMAL LOCATION

Genetic locus: MEOX2 (human) mapping to 7p21.2; Meox2 (mouse) mapping to 12 A3.

SOURCE

MOX-2 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 253-291 near the C-terminus of MOX-2 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390075 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MOX-2 (F-7) is recommended for detection of MOX-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MOX-2 (F-7) is also recommended for detection of MOX-2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for MOX-2 siRNA (h): sc-106233, MOX-2 siRNA (m): sc-149520, MOX-2 shRNA Plasmid (h): sc-106233-SH, MOX-2 shRNA Plasmid (m): sc-149520-SH, MOX-2 shRNA (h) Lentiviral Particles: sc-106233-V and MOX-2 shRNA (m) Lentiviral Particles: sc-149520-V.

Molecular Weight of MOX-2: 34 kDa.

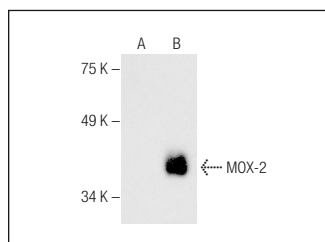
Positive Controls: HeLa whole cell lysate: sc-2200 or MOX-2 (h): 293 Lysate: sc-113256.

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 L-Agarose: sc-2336 (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.

DATA



MOX-2 (F-7): sc-390075. Western blot analysis of MOX-2 expression in non-transfected: sc-110760 (A) and human MOX-2 transfected: sc-113256 (B) 293 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.