

MOX-2 (h): 293 Lysate: sc-113256

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 MOX2 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: MOX2 (human) mapping to 7p21.2.

PRODUCT

MOX-2 (h): 293 Lysate represents a lysate of human MOX-2 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

MOX-2 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive MOX-2 antibodies. Recommended use: 10-20 µl per lane.

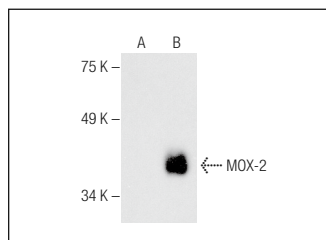
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

MOX-2 (F-7): sc-390075 is recommended as a positive control antibody for Western Blot analysis of enhanced human MOX-2 expression in MOX-2 transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.