

# MOX-2 (JJ-7): sc-81971

## 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 MEOM2 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.

## CHROMOSOMAL LOCATION

Genetic locus: MEOM2 (human) mapping to 7p21.2; Meox2 (mouse) mapping to 12 A3.

## SOURCE

MOX-2 (JJ-7) is a mouse monoclonal antibody raised against recombinant MOX-2 of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

MOX-2 (JJ-7) is recommended for detection of MOX-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

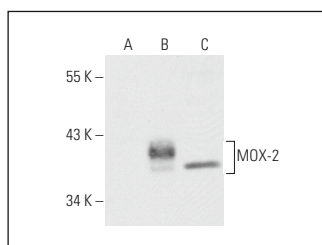
Molecular Weight of MOX-2: 34 kDa.

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

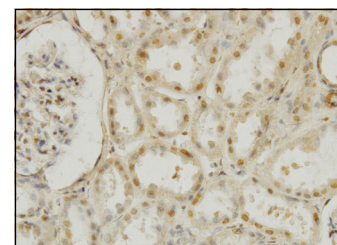
## RECOMMENDED SUPPORT REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



MOX-2 (JJ-7): sc-81971. Western blot analysis of MOX-2 expression in non-transfected 293: sc-110760 (A), human MOX-2 transfected 293: sc-113256 (B) and HeLa (C) whole cell lysates.



MOX-2 (JJ-7): sc-81971. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing nuclear and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Gohn, C.R., et al. 2016. Mesenchyme homeobox 2 enhances migration of endothelial colony forming cells exposed to intrauterine diabetes mellitus. *J. Cell. Physiol.* 232: 1885-1892.
- Armas-López, L., et al. 2017. Epigenomic study identifies a novel mesenchyme homeobox2-GLI1 transcription axis involved in cancer drug resistance, overall survival and therapy prognosis in lung cancer patients. *Oncotarget* 8: 67056-67081.
- Shi, L., et al. 2019. Mouse embryonic palatal mesenchymal cells maintain stemness through the PTEN-Akt-mTOR autophagic pathway. *Stem Cell Res. Ther.* 10: 217.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.