

Msx-2 (N-20): sc-17729

BACKGROUND

Msx homeobox genes encode for transcription factors that control morphogenesis and are expressed at sites of epithelial-mesenchymal interaction during embryogenesis, such as the tooth. Two of these genes, Msx-1 and Msx-2, are key factors for the development of tooth and craniofacial skeleton. Msx-1 also downregulates a master gene of skeletal cells differentiation. Msx-1 and Msx-2 contribute to the initial patterning of dentition as well as playing a pivotal role in terminal cell differentiation. In addition, Msx-1 and Msx-2 are expressed in the epidermis, hair follicles and fibroblasts of the developing fetal skin. In adult skin, Msx-1 and Msx-2 expression is confined to epithelially derived structures. Msx-2 is detected as a diffuse cytoplasmic signal in fetal epidermis and portions of the hair follicle and dermis, but is localized to the nucleus in the adult epidermis. Msx-1 and Msx-2 are also expressed during critical developmental stages of neural tube and neural crest, suggesting that these genes play an important role in organogenesis.

CHROMOSOMAL LOCATION

Genetic locus: MSX2 (human) mapping to 5q35.2; Msx2 (mouse) mapping to 13 B1.

SOURCE

Msx-2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Msx-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-17729 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-17729 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Msx-2 (N-20) is recommended for detection of Msx-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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Msx-2 siRNA (h): sc-43946, Msx-2 siRNA (m): sc-43947, Msx-2 shRNA Plasmid (h): sc-43946-SH, Msx-2 shRNA Plasmid (m): sc-43947-SH, Msx-2 shRNA (h) Lentiviral Particles: sc-43946-V and Msx-2 shRNA (m) Lentiviral Particles: sc-43947-V.

Msx-2 (N-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

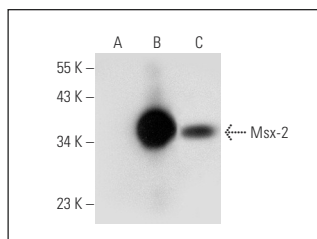
Molecular Weight of Msx-2: 29 kDa.

Positive Controls: Msx-2 (h): 293 Lysate: sc-113166 or JEG-3 whole cell lysate: sc-364255.

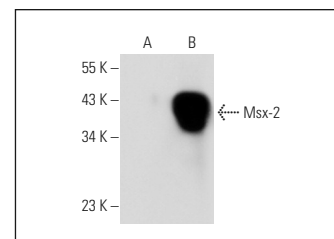
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Msx-2 (N-20): sc-17729. Western blot analysis of Msx-2 expression in non-transfected 293: sc-110760 (A), human Msx-2 transfected 293: sc-113166 (B) and JEG-3 (C) whole cell lysates.



Msx-2 (N-20): sc-17729. Western blot analysis of Msx-2 expression in non-transfected: sc-117750 (A) and human Msx-2 transfected: sc-113166 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Shao, J.S., et al. 2005. Msx-2 promotes cardiovascular calcification by activating paracrine Wnt signals. *J. Clin. Invest.* 115: 1210-1220.
- Satoh, K., et al. 2008. Up-regulation of Msx-2 enhances the malignant phenotype and is associated with twist 1 expression in human pancreatic cancer cells. *Am. J. Pathol.* 172: 926-939.
- Li, Y., et al. 2010. FGF2 Promotes Msx-2 stimulated PC-1 expression via Frs2/MAPK signaling. *J. Cell. Biochem.* 111: 1346-1358.
- Satoh, K., et al. 2010. Expression of MSX2 predicts malignancy of branch duct intraductal papillary mucinous neoplasm of the pancreas. *J. Gastroenterol.* 45: 763-770.

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.

MONOS
Satisfaction
Guaranteed

Try **Msx-2 (B-2): sc-393986** or **Msx-2 (F-6): sc-365232**, our highly recommended monoclonal alternatives to Msx-2 (N-20).