

# Msx-2 (T-20): sc-17731

## 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 down-regulates 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 (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-17731 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-17731 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Msx-2 (T-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).

Msx-2 (T-20) is also recommended for detection of Msx-2 in additional species, including equine, canine, bovine and porcine.

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

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

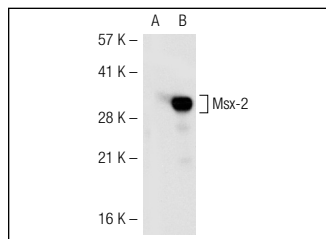
Molecular Weight of Msx-2: 29 kDa.

Positive Controls: Msx-2 (h): 293 Lysate: sc-113166.

## 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 (T-20): sc-17731. Western blot analysis of Msx-2 expression in non-transfected: sc-110760 (A) and human Msx-2 transfected: sc-113166 (B) 293 whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Kato, S., et al. 2009. Bone morphogenetic protein-2 induces the differentiation of a mesenchymal progenitor cell line, ROB-C26, into mature osteoblasts and adipocytes. *Life Sci.* 84: 302-310.
2. Li, Y., et al. 2010. FGF2 promotes Msx-2 stimulated PC-1 expression via Frs2/MAPK signaling. *J. Cell. Biochem.* 111: 1346-1358.

## 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.

## PROTOCOLS

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

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