SANTA CRUZ BIOTECHNOLOGY, INC.

# MSG1 (K-12): sc-50743

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Pigmentation is a highly characteristic and distinguishing feature of differentiated melanocytes. Generally speaking, pigmentation decreases with melanoma progression and/or loss of several other differentiated properties of melanocytes. The gene which encodes the MSG1 protein is expressed at high levels in strongly pigmented melanoma cells, but at low levels in weakly pigmented cells, suggesting that MSG1 may be associated with pigmentation. MSG1, also designated CITED1, localizes to the nucleus and only demonstrates expression in melanocytes and testis. The deduced 193 amino acid human MSG1 protein shares 75% sequence homology with mouse MSG1. The MSG1 protein contains a serine/threonine-rich region, and research indicates that a fusion protein containing MSG1 and a DNA-binding domain activates transcription in mammalian cells, the activation of which is dependent upon the acidic domain of MSG1.

## REFERENCES


1. Shioda, T., Fenner, M.H. and Isselbacher, K.J. 1996. MSG1, a novel melanocyte-specific gene, encodes a nuclear protein and is associated with pigmentation. Proc. Nat. Acad. Sci. USA 93: 12298-12303.
2. Watahiki, M.K., Tatematsu, K., Fujihira, K., Yamamoto, M. and Yamamoto, K.T. 1999. The MSG1 and AXR1 genes of *Arabidopsis* are likely to act independently in growth-curvature responses of hypocotyls. Planta 207: 362-369.
3. Vachtenheim, J. and Novotná, H. 2000. Expression of genes for microphthalmia isoforms, Pax3 and MSG1, in human melanomas. Cell. Mol. Biol. 45: 1075-1082.
4. Yahata, T., de Caestecker, M.P., Lechleider, R.J. andriole, S., Roberts, A.B., Isselbacher, K.J. and Shioda, T. 2000. The MSG1 non-DNA-binding transactivator binds to the p300/CBP coactivators, enhancing their functional link to the Smad transcription factors. J. Biol. Chem. 275: 8825-8834.
5. Ahmed, N.U., Shioda, T., Coser, K.R., Ichihashi, M. and Ueda, M. 2001. Aberrant expression of MSG1 transcriptional activator in human malignant melanoma *in vivo*. Pigment Cell Res. 14: 140-143.
6. Nair, S.S., Chaubal, V.A., Shioda, T., Coser, K.R. and Mojamdar, M. 2001. Overexpression of MSG1 transcriptional co-activator increases melanin in B16 melanoma cells: a possible role for MSG1 in melanogenesis. Pigment Cell Res.14: 206-209.
7. Rodriguez, T.A., Sparrow, D.B., Scott, A.N., Withington, S.L., Preis, J.I., Michalicek, J., Clements, M., Tsang, T.E., Shioda, T., Beddington, R.S. and Dunwoodie, S.L. 2003. CITED1 is required in trophoblasts for placental development and for embryo growth and survival. Mol. Cell. Biol. 24: 228-244.


## CHROMOSOMAL LOCATION

Genetic locus: CITED1 (human) mapping to Xq13.1; Cited1 (mouse) mapping to X D.

## RESEARCH USE

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

## SOURCE

MSG1 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MSG1 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.

Blocking peptide available for competition studies, sc-50743 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MSG1 (K-12) is recommended for detection of MSG1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 MSG1 siRNA (h): sc-38049, MSG1 siRNA (m): sc-38050, MSG1 shRNA Plasmid (h): sc-38049-SH, MSG1 shRNA Plasmid (m): sc-38050-SH, MSG1 shRNA (h) Lentiviral Particles: sc-38049-V and MSG1 shRNA (m) Lentiviral Particles: sc-38050-V.

Molecular Weight of MSG1: 27 kDa.

## 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) 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.

## STORAGE

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

## PROTOCOLS

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