

# Mds1 (H-45): sc-99130

## BACKGROUND

The Mds1 and Evi-1 genes located on human chromosome 3q26.2 form a complex locus that encodes three different proteins: Mds1, Evi-1 and a Mds1-Evi-1 fusion protein. Mds1 is a 169 amino acid protein that has lower expression levels than either Mds1-Evi-1 fusion protein or Evi-1. The Mds1-Evi-1 fusion protein is expressed in both normal and leukemic tissues and contains several zinc finger domains. Evi-1 contains two zinc finger domains, the second of which is essential for transactivation of the c-Fos promoter and for AP-1 activation. The first zinc finger domain in Evi-1 binds to Smad3, suppressing its activity and inhibiting TGF $\beta$  signaling. The t(3;21) (q26;q22) chromosomal translocation of Evi-1 produces a chimeric transcription factor, AML1/Evi-1, that appears to suppress the transactivation of AML-1, which is a stimulator of myeloid cell differentiation. Inappropriate Evi-1 gene expression in hematopoietic cells has been shown to be associated with acute myelogenous leukemia (AML) and myelodysplastic syndromes.

## REFERENCES

1. Kreider, B.L., et al. 1993. Loss of erythropoietin responsiveness in erythroid progenitors due to expression of the Evi-1 myeloid-transforming gene. *Proc. Natl. Acad. Sci. USA* 90: 6454-6458.
2. Tanaka, T., et al. 1994. Evi-1 raises AP-1 activity and stimulates c-fos promoter transactivation with dependence on the second zinc finger domain. *J. Biol. Chem.* 269: 24020-24026.
3. Tanaka, T., et al. 1995. Dual functions of the AML1/Evi-1 chimeric protein in the mechanism of leukemogenesis in t(3;21) leukemias. *Mol. Cell. Biol.* 15: 2383-2392.
4. Ogawa, S., et al. 1996. Abnormal expression of Evi-1 gene in human leukemias. *Hum. Cell* 9: 323-332.
5. Kurokawa, M., et al. 1998. The t(3;21) fusion product, AML1/Evi-1, interacts with Smad3 and blocks transforming growth factor- $\beta$ -mediated growth inhibition of myeloid cells. *Blood* 92: 4003-4012.
6. Kurokawa, M., et al. 1998. The oncoprotein Evi-1 represses TGF $\beta$  signalling by inhibiting Smad3. *Nature* 394: 92-96.

## CHROMOSOMAL LOCATION

Genetic locus: MECOM (human) mapping to 3q26.2; Mecom (mouse) mapping to 3 A3.

## SOURCE

Mds1 (H-45) is a rabbit polyclonal antibody raised against amino acids 11-55 mapping near the N-terminus of Mds1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-99130 X, 200  $\mu$ g/0.1 ml.

## APPLICATIONS

Mds1 (H-45) is recommended for detection of Mds1 and Mds1-Evi-1 fusion protein of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Mds1 (H-45) is also recommended for detection of Mds1 and Mds1-Evi-1 fusion protein in additional species, including equine, canine and porcine.

Mds1 (H-45) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Mds1: 18 kDa.

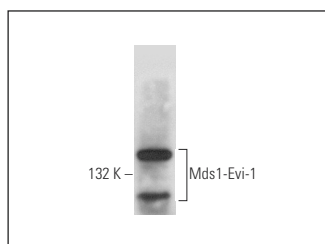
Molecular Weight of Mds1-Evi-1: 140 kDa.

Positive Controls: CCRF-CEM whole cell lysate: sc-2225.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Mds1 (H-45): sc-99130. Western blot analysis of Mds1-Evi-1 fusion protein expression in CCRF-CEM whole cell lysate.

## 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.