

Mds1 (N-20): sc-48274

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 β 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 hemato-poietic 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- β -mediated growth inhibition of myeloid cells. *Blood* 92: 4003-4012.
6. Kurokawa, M., et al. 1998. The oncoprotein Evi-1 represses TGF β signalling by inhibiting Smad3. *Nature* 394: 92-96.

CHROMOSOMAL LOCATION

Genetic locus: MECOM (human) mapping to 3q26.2.

SOURCE

Mds1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Mds1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-48274 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-48274 X, 200 μ g/0.1 ml.

APPLICATIONS

Mds1 (N-20) is recommended for detection of Mds1 and Mds1-Evi-1 fusion protein of 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).

Mds1 (N-20) is also recommended for detection of Mds1 and Mds1-Evi-1 fusion protein in additional species, including equine and porcine.

Mds1 (N-20) 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: Hep G2 cell lysate: sc-2227 or CCRF-CEM cell lysate: sc-2225.

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.

RESEARCH USE

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

PROTOCOLS

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