

# Meis1/2 (H-80): sc-25412

## BACKGROUND

Hox, Pbx and Meis families of transcription factors form heteromeric complexes and bind DNA through specific homeobox domains. Hox proteins are involved in regulating tissue patterning during development, and are also expressed in lineage- and stage-specific patterns during adult hematopoietic differentiation and in leukemias. The Hox proteins, which include paralog groups 1-10, have a low intrinsic binding affinity for DNA and are instead associated into cooperative DNA binding complexes with Pbx or the Pbx-related Meis proteins, which result in an enhanced Hox-DNA binding affinity and an increased selectivity for the binding site. Both Meis1 and Meis2 (also known as Meis-related gene 1 or Mrg1) are members of the TALE ("three amino acid loop extension") family of homeodomain-containing proteins. In addition to binding with Hox proteins, Meis1 also forms heterodimers with the ubiquitously expressed Pbx proteins, including Pbx1, Pbx2 and Pbx3, and these complexes contain distinct DNA-binding specificities. Like Hox and Pbx proteins, Meis1 is implicated in oncogenesis, as it is overexpressed as a result of adjacent retroviral insertion in BHX-2 myeloid leukemias. Two Meis-related proteins, Meis2 and Meis3 (also designated Mrg1 and Mrg2, respectively), possess largely similar sequence identity with Meis1 and are expressed in normal tissues and myeloid leukemias. In the pancreas, Meis2 preferentially associates with Pbx1, and together they associate with the pancreas-specific homeodomain factor, Pdx1, to repress Pdx1-induced transcriptional activation.

## REFERENCES

1. Nakamura, T., et al. 1996. Identification of a new family of Pbx-related homeobox genes. *Oncogene* 13: 2235-2242.
2. Knoepfler, P.S., et al. 1997. Meis1 and pKnox1 bind DNA cooperatively with Pbx1 utilizing an interaction surface disrupted in oncoprotein E2a-Pbx1. *Proc. Natl. Acad. Sci. USA* 94: 14553-14558.
3. Shen, W.F., et al. 1997. AbdB-like Hox proteins stabilize DNA binding by the Meis1 homeodomain proteins. *Mol. Cell. Biol.* 17: 6448-6458.

## CHROMOSOMAL LOCATION

Genetic locus: MEIS1 (human) mapping to 2p14, MEIS2 (human) mapping to 15q14; Meis1 (mouse) mapping to 11 A3.1, Meis2 (mouse) mapping to 2 E4.

## SOURCE

Meis1/2 (H-80) is a rabbit polyclonal antibody raised against amino acids 1-80 mapping at the N-terminus of Meis1 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-25412 X, 200 µg/0.1 ml.

## RESEARCH USE

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

## APPLICATIONS

Meis1/2 (H-80) is recommended for detection of Meis1 and Meis2 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Meis1/2 (H-80) is also recommended for detection of Meis1 and Meis2 in additional species, including equine, canine, bovine, porcine and avian.

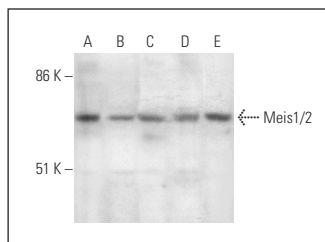
Suitable for use as control antibody for Meis1/2 siRNA (h): sc-43922, Meis1/2 siRNA (m): sc-43923, Meis1/2 shRNA Plasmid (h): sc-43922-SH, Meis1/2 shRNA Plasmid (m): sc-43923-SH, Meis1/2 shRNA (h) Lentiviral Particles: sc-43922-V and Meis1/2 shRNA (m) Lentiviral Particles: sc-43923-V.

Meis1/2 (H-80) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

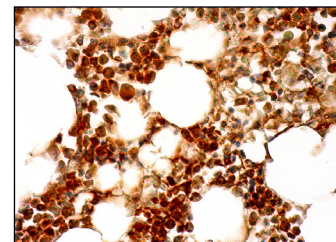
Molecular Weight of Meis1/2: 53/63 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HL-60 whole cell lysate: sc-2209 or CCRF-CEM cell lysate: sc-2225.

## DATA



Meis1/2 (H-80): sc-25412. Western blot analysis of Meis1/2 expression in CCRF-CEM (A), HeLa (B), HL-60 (C), K-562 (D) and M1 (E) whole cell lysates.



Meis1/2 (H-80): sc-25412. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear and cytoplasmic staining of hematopoietic cells.

## SELECT PRODUCT CITATIONS

1. Mojsin, M. and Stevanovic, M. 2010. PBX1 and MEIS1 up-regulate SOX3 gene expression by direct interaction with a consensus binding site within the basal promoter region. *Biochem. J.* 425: 107-116.

## STORAGE

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



Try **Meis1/2/3 (9.2.7): sc-101850** or **Meis2 (H-10): sc-515470**, our highly recommended monoclonal alternatives to Meis1/2 (H-80).