SANTA CRUZ BIOTECHNOLOGY, INC.

# Meis2 (h4): 293T Lysate: sc-177534

## 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 Pbx 1, Pbx 2 and Pbx 3, 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 Pbx 1, and together they associate with the pancreas-specific homeodomain factor PDX-1 to repress PDX-1-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. Shen, W.F., et al. 1997. AbdB-like Hox proteins stabilize DNA binding by the Meis1 homeodomain proteins. Mol. Cell. Biol. 17: 6448-6458.
3. Knoepfler, P.S., et al. 1997. Meis1 and pKnox1 bind DNA cooperatively with Pbx 1 utilizing an interaction surface disrupted in oncoprotein E2A-Pbx 1. Proc. Natl. Acad. Sci. USA 94: 14553-14558.
4. Kroon, E., et al. 1998. HoxA9 transforms primary bone marrow cells through specific collaboration with Meis1a but not Pbx 1b. EMBO J. 17: 3714-3725.


## CHROMOSOMAL LOCATION

Genetic locus: MEIS2 (human) mapping to 15q14.

## PRODUCT

Meis2 (h4): 293T Lysate represents a lysate of human Meis2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## APPLICATIONS

Meis2 (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive Meis2 antibodies. Recommended use: 10-20 µl per lane.

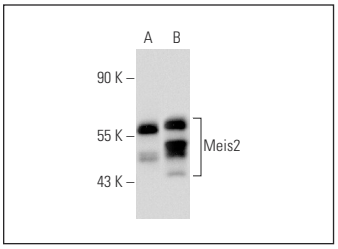
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Meis2 (63-T): sc-81986 is recommended as a positive control antibody for Western Blot analysis of enhanced human Meis2 expression in Meis2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA




Meis2 (63-T): sc-81986. Western blot analysis of Meis2 expression in non-transfected: sc-117752 (**A**) and human Meis2 transfected: sc-177534 (**B**) 293T whole cell lysates.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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 for detailed protocols and support products.