SANTA CRUZ BIOTECHNOLOGY, INC.

Meis2 (H-10): sc-515470

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: MEIS2 (human) mapping to 15q14; Meis2 (mouse) mapping to 2 E4.

SOURCE

Meis2 (H-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 45-63 near the N-terminus of Meis2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-515470 X, 200 µg/0.1 ml.

Meis2 (H-10) is available conjugated to agarose (sc-515470 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515470 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515470 PE), fluorescein (sc-515470 FITC), Alexa Fluor® 488 (sc-515470 AF488), Alexa Fluor® 546 (sc-515470 AF546), Alexa Fluor® 594 (sc-515470 AF594) or Alexa Fluor® 647 (sc-515470 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515470 AF680) or Alexa Fluor® 790 (sc-515470 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515470 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

Meis2 (H-10) is recommended for detection of Meis2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

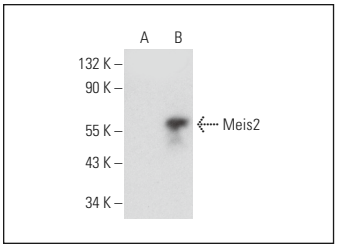
Suitable for use as control antibody for Meis2 siRNA (h): sc-38794, Meis2 siRNA (m): sc-38795, Meis2 shRNA Plasmid (h): sc-38794-SH, Meis2 shRNA Plasmid (m): sc-38795-SH, Meis2 shRNA (h) Lentiviral Particles: sc-38794-V and Meis2 shRNA (m) Lentiviral Particles: sc-38795-V.

Meis2 (H-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

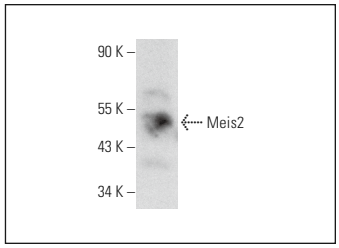
Molecular Weight of Meis2: 52 kDa.

Positive Controls: Meis2 (h): 293T Lysate: sc-116143 or EOC 20 whole cell lysate: sc-364187.

DATA



Meis2 (H-10): sc-515470. Western blot analysis of Meis2 expression in non-transfected: sc-117752 (**A**) and human Meis2 transfected: sc-116143 (**B**) 293T whole cell lysates.



Meis2 (H-10): sc-515470. Western blot analysis of Meis2 expression in EOC 20 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Lin, J.M., et al. 2018. The transcription factor Tfap2e/AP-2ε plays a pivotal role in maintaining the identity of basal vomeronasal sensory neurons. Dev. Biol. 441: 67-82.
2. Katreddi, R.R., et al. 2022. Notch signaling determines cell-fate specification of the two main types of vomeronasal neurons of rodents. Development 149: dev200448.
3. Casoni, F., et al. 2024. A spatial-temporal map of glutamatergic neurogenesis in the murine embryonic cerebellar nuclei uncovers a high degree of cellular heterogeneity. J. Anat. 245: 560-571.
4. Cui, Y., et al. 2024. Myeloid ectopic viral integration site 2 accelerates the progression of Alzheimer's disease. Aging Cell 23: e14260.
5. Zhuo, R., et al. 2024. CDK5RAP3 is a novel super-enhancer-driven gene activated by master TFs and regulates ER-Phagy in neuroblastoma. Cancer Lett. 591: 216882.

RESEARCH USE

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