

Meis1/2/3 (9.2.7): sc-101850

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 BXH-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.

SOURCE

Meis1/2/3 (9.2.7) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 59-390 of Meis1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Meis1/2/3 (9.2.7) is available conjugated to agarose (sc-101850 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101850 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101850 PE), fluorescein (sc-101850 FITC), Alexa Fluor® 488 (sc-101850 AF488), Alexa Fluor® 546 (sc-101850 AF546), Alexa Fluor® 594 (sc-101850 AF594) or Alexa Fluor® 647 (sc-101850 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101850 AF680) or Alexa Fluor® 790 (sc-101850 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Meis1/2/3 (9.2.7) is recommended for detection of Meis1/2/3 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

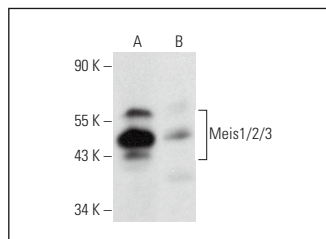
Molecular Weight of Meis1/2/3: 33-52 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or EOC 20 whole cell lysate: sc-364187.

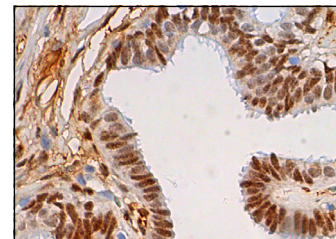
STORAGE

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

DATA



Meis1/2/3 (9.2.7): sc-101850. Western blot analysis of Meis1/2/3 expression in IMR-32 (A) and EOC 20 (B) whole cell lysates.



Meis1/2/3 (9.2.7): sc-101850. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tissue showing nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

- Ding, X., et al. 2013. Transcription factor AP-2α regulates acute myeloid leukemia cell proliferation by influencing Hoxa gene expression. *Int. J. Biochem. Cell Biol.* 45: 1647-1656.
- Xie, H., et al. 2018. Meis1 level in unresectable hepatocellular carcinoma can predict the post-treatment outcomes of radiofrequency ablation. *Oncotarget* 9: 15252-15265.
- Geuens, T., et al. 2021. Thiol-ene cross-linked alginate hydrogel encapsulation modulates the extracellular matrix of kidney organoids by reducing abnormal type 1a1 collagen deposition. *Biomaterials* 275: 120976.
- Ruiter, F.A.A., et al. 2022. Soft, Dynamic hydrogel confinement improves kidney organoid lumen morphology and reduces epithelial-mesenchymal transition in culture. *Adv. Sci.* 9: e2200543.
- Wang, W., et al. 2022. Hoxa9/Meis1-transgenic zebrafish develops acute myeloid leukaemia-like disease with rapid onset and high penetrance. *Open Biol.* 12: 220172.
- Davis, J.L., et al. 2022. Single-cell multiomics reveals the complexity of TGFβ signalling to chromatin in iPSC-derived kidney organoids. *Commun. Biol.* 5: 1301.
- Girgin, B. and Kocabaş, F. 2023. Newly developed Meis inhibitor selectively blocks MeisHigh prostate cancer growth and induces apoptosis. *Gene* 871: 147425.
- Krupa, I., et al. 2024. Protocol for the growth and maturation of hiPSC-derived kidney organoids using mechanically defined hydrogels. *Curr. Protoc.* 4: e1096.

RESEARCH USE

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

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