

nm23-H1/2/3 (E-11): sc-166937

BACKGROUND

The nm23 protein is implicated in a variety of biological processes, including suppressing metastasis, phytochrome responses in plants and regulating differentiation. nm23-H1, nm23-H2 and nm23-H3, members of the nm23 family, are putative metastasis suppressor genes that encode nucleoside diphosphate kinase (NDPK) A and B. NDPKs form oligomers, which are distributed in both the soluble and particulate fractions of cells. Upon cAMP-induced differentiation of rat cells, nm23 proteins show a differential interaction with intermediate filaments. Both isoforms also associate with GFAP in differentiated cells. nm23 proteins and their mutants are localized predominantly in the mitochondria. nm23 mutants are unable to inhibit differentiation and promote apoptosis as a results of defective protein-protein interactions in the mitochondria. nm23-H1, nm23-H2 and nm23-H3 are indicators of a poor prognosis in human hematopoietic malignancies, and as a high expression of nm23-H1 and -H2 is positively correlated with histological differentiation.

REFERENCES

1. Watanabe, J., et al. 1995. Expression of nm23-H1 and nm23-H2 protein in endometrial carcinoma. *Br. J. Cancer* 72: 1469-1473.
2. Kim, S.Y., et al. 2000. Inhibition of progesterone-induced *Xenopus* oocyte maturation by nm23. *Cell Growth Differ.* 11: 485-490.
3. Hamby, C.V., et al. 2000. Expression of a catalytically inactive H118Y mutant of nm23-H2 suppresses the metastatic potential of line IV C1 1 human melanoma cells. *Int. J. Cancer* 88: 547-553.
4. Venturelli, D., et al. 2000. The nucleoside diphosphate kinase activity of DRnm23 is not required for inhibition of differentiation and induction of apoptosis in 32Dc13 myeloid precursor cells. *Exp. Cell Res.* 257: 265-271.
5. Roymans, D., et al. 2000. Nucleoside diphosphate kinase β (nm23-R1/NDPK β) is associated with intermediate filaments and become upregulated upon cAMP-induced differentiation of rat C6 glioma. *Exp. Cell Res.* 261: 127-138.
6. Joosten, M., et al. 2000. The gene NM23-M2 is frequently mutated in leukemia. *Exp. Hematol.* 28: 1491.

SOURCE

nm23-H1/2/3 (E-11) is a mouse monoclonal antibody raised against amino acids 1-152 representing full length nm23-H1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

nm23-H1/2/3 (E-11) is available conjugated to agarose (sc-166937 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166937 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166937 PE), fluorescein (sc-166937 FITC), Alexa Fluor® 488 (sc-166937 AF488), Alexa Fluor® 546 (sc-166937 AF546), Alexa Fluor® 594 (sc-166937 AF594) or Alexa Fluor® 647 (sc-166937 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166937 AF680) or Alexa Fluor® 790 (sc-166937 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

nm23-H1/2/3 (E-11) is recommended for detection of nm23-H1, nm23-H2 and nm23-H3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Molecular Weight of nm23-H1: 23 kDa.

Molecular Weight of nm23-H2: 17 kDa.

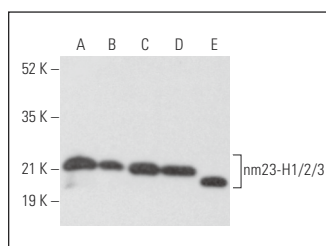
Molecular Weight of nm23-H3: 19 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, BJAB whole cell lysate: sc-2207 or Jurkat whole cell lysate: sc-2204.

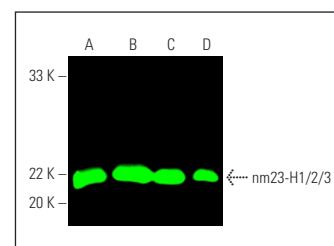
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



nm23-H1/2/3 (E-11): sc-166937. Western blot analysis of nm23-H1/2/3 expression in BJAB (A), A-431 (B), K-562 (C), Jurkat (D) and PC-12 (E) whole cell lysates.



nm23-H1/2/3 (E-11): sc-166937. Near-infrared western blot analysis of nm23-H1/2/3 expression in MCF7 (A), K-562 (B), Jurkat (C) and A549 (D) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 680: sc-516180.

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 for detailed protocols and support products.

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