SANTA CRUZ BIOTECHNOLOGY, INC.

nm23-H1 (C-8): sc-514515

BACKGROUND

The nm23 gene, a potential suppressor of metastasis, was originally identified by differential hybridization between two murine melanoma sub-lines, one with a high and the second with a low metastatic capacity. Highly metastatic sub-lines exhibit much lower levels of nm23 than less metastatic cells. Based on sequence analysis, nm23 appears highly related to nucleotide diphosphate kinases (NDP). In humans, NDP kinases A and B are identical to two isotypes of human nm23 homologs, namely nm23-H1 and H2, respectively. nm23-H2 is identical in sequence to PuF, a transcription factor that binds to nuclease-hypersensitive elements at positions 142 to 115 of the human C-Myc promotor.

CHROMOSOMAL LOCATION

Genetic locus: NME1 (human) mapping to 17q21.33.

SOURCE

nm23-H1 (C-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 134-152 at the C-terminus of nm23-H1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-514515 X, 200 µg/0.1 ml.

nm23-H1 (C-8) is available conjugated to agarose (sc-514515 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514515 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514515 PE), fluorescein (sc-514515 FITC), Alexa Fluor® 488 (sc-514515 AF488), Alexa Fluor® 546 (sc-514515 AF546), Alexa Fluor® 594 (sc-514515 AF594) or Alexa Fluor® 647 (sc-514515 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514515 AF680) or Alexa Fluor® 790 (sc-514515 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514515 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

nm23-H1 (C-8) is recommended for detection of nm23-H1 of 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 nm23-H1 siRNA (h): sc-29414, nm23-H1 shRNA Plasmid (h): sc-29414-SH and nm23-H1 shRNA (h) Lentiviral Particles: sc-29414-V.

nm23-H1 (C-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

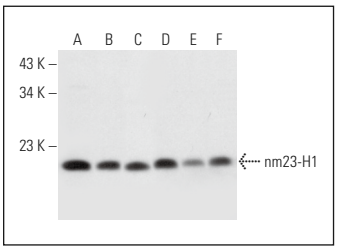
Molecular Weight of nm23-H1: 23 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

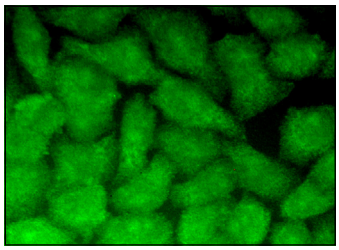
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (C-8): sc-514515. Western blot analysis of nm23-H1 expression in HeLa (**A**), BJAB (**B**), A-431 (**C**), K-562 (**D**), Jurkat (**E**) and MCF7 (**F**) whole cell lysates.



nm23-H1 (C-8): sc-514515. Immunofluorescence staining of formalin-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Wu, Y., et al. 2017. Combined detection of the expression of nm23-H1 and p53 is correlated with survival rates of patients with stage II and III colorectal cancer. Oncol. Lett. 13: 129-136.
2. Wu, Z., et al. 2017. Two serine residues of non-metastasis protein 23-H1 are critical in inhibiting signal transducer and activator of transcription 3 activity in human lung cancer cells. Oncol. Lett. 14: 2475-2482.
3. Felix, I., et al. 2020. *Bacillus anthracis'* PA_{63} delivers the tumor metastasis suppressor protein NDPK-A/NME1 into breast cancer cells. Int. J. Mol. Sci. 21: 3295.
4. Pennino, F.P., et al. 2021. The metastasis suppressor protein nm23-H1 modulates the PI3K-AKT axis through interaction with the p110α catalytic subunit. Oncogenesis 10: 34.
5. Xu, M., et al. 2024. Nuclear NME1 enhances the malignant behavior of A549 cells and impacts lung adenocarcinoma patient prognosis. iScience 27: 110286.

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.