

# nm23-H7 (F-7): sc-166510

## BACKGROUND

nm23-H7, also known as NME7 (non-metastatic cells 7), is a 376 amino acid protein that contains one DM10 domain and belongs to the NDK family. Using magnesium as a cofactor, nm23-H7 functions to catalyze the ATP-dependent creation of nucleoside triphosphates, thereby playing an essential role in metabolic pathways throughout the body. The gene encoding nm23-H7 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

## REFERENCES

1. Lacombe, M.L., et al. 2000. The human Nm23/nucleoside diphosphate kinases. *J. Bioenerg. Biomembr.* 32: 247-258.
2. Hartsough, M.T., et al. 2000. Nm23/nucleoside diphosphate kinase in human cancers. *J. Bioenerg. Biomembr.* 32: 301-308.
3. Kimura, N., et al. 2000. Regulation of cellular functions by nucleoside diphosphate kinases in mammals. *J. Bioenerg. Biomembr.* 32: 309-315.
4. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
5. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
6. Mönig, S.P., et al. 2007. Clinical significance of nm23 gene expression in gastric cancer. *Anticancer Res.* 27: 3029-3033.
7. Hippe, H.J., et al. 2007. Regulation of cardiac cAMP synthesis and contractility by nucleoside diphosphate kinase B/G protein  $\beta$   $\gamma$  dimer complexes. *Circ. Res.* 100: 1191-1199.

## CHROMOSOMAL LOCATION

Genetic locus: NME7 (human) mapping to 1q24.2; Nme7 (mouse) mapping to 1 H2.2.

## SOURCE

nm23-H7 (F-7) is a mouse monoclonal antibody raised against amino acids 100-376 mapping at the C-terminus of nm23-H7 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166510 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

nm23-H7 (F-7) is recommended for detection of nm23-H7 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for nm23-H7 siRNA (h): sc-75935, nm23-H7 siRNA (m): sc-75936, nm23-H7 shRNA Plasmid (h): sc-75935-SH, nm23-H7 shRNA Plasmid (m): sc-75936-SH, nm23-H7 shRNA (h) Lentiviral Particles: sc-75935-V and nm23-H7 shRNA (m) Lentiviral Particles: sc-75936-V.

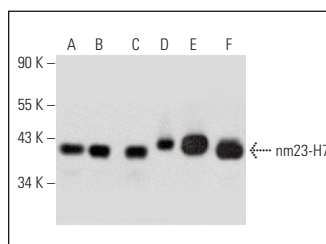
Molecular Weight of nm23-H7: 42 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, THP-1 cell lysate: sc-2238 or NIH/3T3 whole cell lysate: sc-2210.

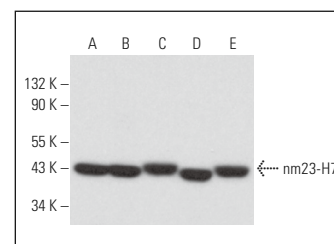
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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-H7 (F-7): sc-166510. Western blot analysis of nm23-H7 expression in HeLa (A), THP-1 (B), T-47D (C), NIH/3T3 (D), Neuro-2A (E) and C6 (F) whole cell lysates.



nm23-H7 (F-7): sc-166510. Western blot analysis of nm23-H7 expression in HeLa (A), HEL 92.1.7 (B), SK-N-SH (C), A2058 (D) and RAW 264.7 (E) whole cell lysates.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.