SANTA CRUZ BIOTECHNOLOGY, INC.

nm23-H5 (I-16): sc-107821

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The nm23 gene family is implicated in a variety of biological processes, including cell proliferation, differentiation and development, signal transduction, G protein-coupled receptor endocytosis and gene expression. Members of the nm23 family are putative metastasis suppressor genes that encode nucleoside diphosphate kinases (NDPK). NDPKs form oligomers that play a role in the synthesis of nucleoside triphosphates other than ATP. Nm23-H1, nm23-H2 and nm23-H3 are indicators of a poor prognosis in human hematopoietic malignancies, as high expression levels of nm23-H1 and -H2 are positively correlated with histological differentiation. Nm23-H5 is specifically expressed in germinal cells of testis, where it plays a critical role in spermiogenesis by increasing the cellular levels of GPX-5 to eliminate reactive oxygen species.

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. Munier, A., et al. 1998. A new human nm23 homologue (nm23-H5) specifically expressed in testis germinal cells. FEBS Lett. 434: 289-294.
3. Venturelli, D., et al. 2000. The nucleoside diphosphate kinase activity of DRnm23 is not required for inhibition of differentiation and induction of apoptosis in 32Dcl3 myeloid precursor cells. Exp. Cell Res. 257: 265-271.
4. Hwang, K.C., et al. 2003. Cloning, sequencing, and characterization of the murine nm23-M5 gene during mouse spermatogenesis and spermiogenesis. Biochem. Biophys. Res. Commun. 306: 198-207.
5. Munier, A., et al. 2003. nm23/NDP kinases in human male germ cells: role in spermiogenesis and sperm motility? Exp. Cell Res. 289: 295-306.
6. Choi, Y.J., et al. 2009. nm23-M5 mediates round and elongated spermatid survival by regulating GPX-5 levels. FEBS Lett. 583: 1292-1298.

CHROMOSOMAL LOCATION

Genetic locus: NME5 (human) mapping to 5q31.2.

SOURCE

nm23-H5 (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of nm23-H5 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-107821 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

nm23-H5 (I-16) is recommended for detection of nm23-H5 of 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other nm23-H family members.

nm23-H5 (I-16) is also recommended for detection of nm23-H5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for nm23-H5 siRNA (h): sc-91797, nm23-H5 shRNA Plasmid (h): sc-91797-SH and nm23-H5 shRNA (h) Lentiviral Particles: sc-91797-V.

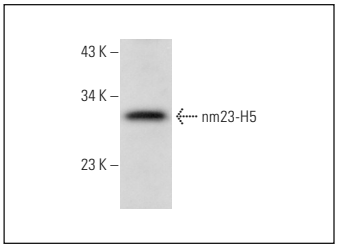
Molecular Weight of nm23-H5: 24 kDa.

Positive Controls: human ovary extract: sc-363769, human lung extract: sc-363767 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



nm23-H5 (I-16): sc-107821. Western blot analysis of nm23-H5 expression in human lung tissue extract.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.