

NMES1 (T-12): sc-138483

BACKGROUND

NMES1 (normal mucosa of esophagus-specific gene 1 protein) is an 83 amino acid protein that belongs to the complex I NDUFA4 subunit family. Localizing to the nucleus, NMES1 is expressed mainly in stomach, placenta, small intestine and colon, as well as in normal mucosa of esophagus. The NMES1 protein is down-regulated in esophageal squamous cell carcinoma. It has been suggested that expression of NMES1 is reduced in 16 of 20 esophageal cancers, and in 9 of 12 colon cancer samples. NMES1 shares 31-34% amino acid identity with the mouse, bovine, and human NADH-ubiquinone oxidoreductase MLRQ subunit. The gene that encodes NMES1 maps to human chromosome 15q21.1. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and is about 3% of the human genome. Tay-Sachs disease is a lethal disorder associated with mutations of the HEXA gene, which is encoded by chromosome 15. Marfan syndrome is associated with chromosome 15 through the FBN1 gene.

REFERENCES

- Zhou, J., Wang, H., Lu, A., Hu, G., Luo, A., Ding, F., Zhang, J., Wang, X., Wu, M. and Liu, Z. 2002. A novel gene, NMES1, downregulated in human esophageal squamous cell carcinoma. *Int. J. Cancer*. 101: 311-316.
- Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608409. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Sova, P., Feng, Q., Geiss, G., Wood, T., Strauss, R., Rudolf, V., Lieber, A. and Kiviat, N. 2006. Discovery of novel methylation biomarkers in cervical carcinoma by global demethylation and microarray analysis. *Cancer Epidemiol. Biomarkers Prev.* 15: 114-123.
- Zody, M.C., Garber, M., Sharpe, T., Young, S.K., Rowen, L., O'Neill, K., Whittaker, C.A., Kamal, M., Chang, J.L., Cuomo, C.A., Dewar, K., FitzGerald, M.G., Kodira, C.D., Madan, A., Qin, S., Yang, X., et al. 2006. Analysis of the DNA sequence and duplication history of human chromosome 15. *Nature* 440: 671-675.
- Cachón-González, M.B., Wang, S.Z., Lynch, A., Ziegler, R., Cheng, S.H. and Cox, T.M. 2006. Effective gene therapy in an authentic model of Tay-Sachs-related diseases. *Proc. Natl. Acad. Sci. USA* 103: 10373-10378.
- Arai, M., Imazeki, F., Sakai, Y., Mikata, R., Tada, M., Seki, N., Shimada, H., Ochiai, T. and Yokosuka, O. 2008. Analysis of the methylation status of genes up-regulated by the demethylating agent, 5-aza-2'-deoxycytidine, in esophageal squamous cell carcinoma. *Oncol. Rep.* 20: 405-412.

CHROMOSOMAL LOCATION

Genetic locus: AA467197 (mouse) mapping to 2 E5.

SOURCE

NMES1 (T-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NMES1 of mouse origin.

RESEARCH USE

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

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-138483 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NMES1 (T-12) is recommended for detection of NMES1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NMES1 (T-12) is also recommended for detection of NMES1 in additional species, including equine.

Suitable for use as control antibody for NMES1 siRNA (m): sc-150009, NMES1 shRNA Plasmid (m): sc-150009-SH and NMES1 shRNA (m) Lentiviral Particles: sc-150009-V.

Molecular Weight of NMES1 10 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

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) 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.

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 or our catalog for detailed protocols and support products.