

MLN64 (G-3): sc-390040

BACKGROUND

Sterol transport is mediated by vesicles or by soluble protein carriers, such as steroidogenic acute regulatory protein (StAR). StAR is homologous to a family of proteins containing a 200-210 amino acid StAR-related lipid transfer (StART) domain, including StARD3 (also known as MLN64). Amplification of the gene which encodes MLN64 results in overexpression and coamplification with ErbB-2 in breast cancer cell lines. Immunoblot analysis shows expression in most breast cancer cell lines and tissues, as well as in an ovary carcinoma cell line. Immunofluorescence microscopy and mutation analysis shows cytoplasmic expression in condensation sites and perinuclear condensation in breast cancer biopsies. It is suggested that MLN64 acts on late endosome cholesterol traffic, possibly lowering cholesterol by shuttling it to a cytoplasmic receptor site.

REFERENCES

1. Tomasetto, C., et al. 1995. Identification of four novel human genes amplified and overexpressed in breast carcinoma and localized to the q11-q21.3 region of chromosome 17. *Genomics* 28: 367-376.
2. Moog-Lutz, C., et al. 1997. MLN64 exhibits homology with the steroidogenic acute regulatory protein (StAR) and is over-expressed in human breast carcinomas. *Int. J. Cancer* 71: 183-191.
3. Watari, H., et al. 1997. MLN64 contains a domain with homology to the steroidogenic acute regulatory protein (StAR) that stimulates steroidogenesis. *Proc. Natl. Acad. Sci. USA* 94: 8462-8467.
4. Alpy, F., et al. 2001. The steroidogenic acute regulatory protein homolog MLN64, a late endosomal cholesterol-binding protein. *J. Biol. Chem.* 276: 4261-4269.
5. Soccio, R.E., et al. 2002. The cholesterol-regulated StARD4 gene encodes a StAR-related lipid transfer protein with two closely related homologues, StARD5 and StARD6. *Proc. Natl. Acad. Sci. USA* 99: 6943-6948.
6. Alpy, F., et al. 2003. Metastatic lymph node 64 (MLN64), a gene overexpressed in breast cancers, is regulated by Sp/KLF transcription factors. *Oncogene* 22: 3770-3780.
7. Ren, S., et al. 2004. Effect of increasing the expression of cholesterol transporters (StAR, MLN64, and SCP-2) on bile acid synthesis. *J. Lipid Res.* 45: 2123-2131.

CHROMOSOMAL LOCATION

Genetic locus: STARD3 (human) mapping to 17q12; Stard3 (mouse) mapping to 11 D.

SOURCE

MLN64 (G-3) is a mouse monoclonal antibody raised against amino acids 209-445 mapping at the C-terminus of MLN64 of human origin.

PRODUCT

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

APPLICATIONS

MLN64 (G-3) is recommended for detection of MLN64 of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (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 MLN64 siRNA (h): sc-44439, MLN64 siRNA (m): sc-149470, MLN64 shRNA Plasmid (h): sc-44439-SH, MLN64 shRNA Plasmid (m): sc-149470-SH, MLN64 shRNA (h) Lentiviral Particles: sc-44439-V and MLN64 shRNA (m) Lentiviral Particles: sc-149470-V.

Molecular Weight of MLN64: 50 kDa.

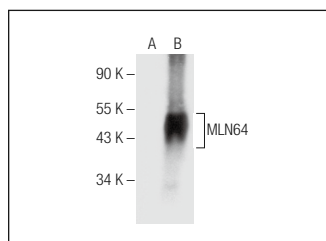
Positive Controls: MLN64 (h): 293T Lysate: sc-114079.

RECOMMENDED SUPPORT REAGENTS

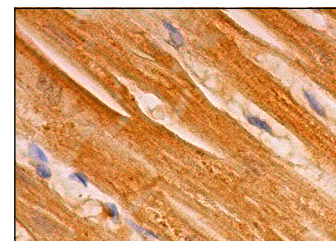
To ensure optimal results, the following support reagents are recommended:

- 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.
- 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MLN64 (G-3): sc-390040. Western blot analysis of MLN64 expression in non-transfected: sc-117752 (A) and human MLN64 transfected: sc-114079 (B) 293T whole cell lysates.



MLN64 (G-3): sc-390040. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

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.