



MEL-28 (cN-13): sc-83430

BACKGROUND

MEL-28 (maternal effect lethal) is a 1784 amino acid protein that localizes to the nuclear envelope (NE) in interphase and kinetochores during mitosis in *Caenorhabditis elegans*. It is suggested that MEL-28 shuttles between the nuclear pore complex (NPC) and kinetochore and is critical for envelope assembly in *C. elegans* early embryos. Mutations of MEL-28 lead to impaired nuclear integrity and abnormal distribution of both NE and NPC proteins. Evolutionarily conserved, MEL-28 may play a role in nuclear organization in eukaryotes. MEL-28 is required for the recruitment of nucleoporins to chromatin and interacts with the Nup107-160 complex, which is an essential building block of the vertebrate nuclear pore.

REFERENCES

- Galy, V., Askjaer, P., Franz, C., López-Iglesias, C. and Mattaj, I.W. 2006. MEL-28, a novel nuclear-envelope and kinetochore protein essential for zygotic nuclear-envelope assembly in *C. elegans*. *Curr. Biol.* 16: 1748-1756.
- Fernandez, A.G. and Piano, F. 2006. MEL-28 is downstream of the Ran cycle and is required for nuclear-envelope function and chromatin maintenance. *Curr. Biol.* 16: 1757-1763.
- Roux, K.J. and Burke, B. 2006. From pore to kinetochore and back: regulating envelope assembly. *Dev. Cell.* 11: 276-278.
- Orjalo, A.V., Arnaoutov, A., Shen, Z., Boyarchuk, Y., Zeitlin, S.G., Fontoura, B., Briggs, S., Dasso, M. and Forbes, D.J. 2006. The Nup107-160 nucleoporin complex is required for correct bipolar spindle assembly. *Mol. Biol. Cell.* 17: 3806-3818.
- Gillespie, P.J., Khoudoli, G.A., Stewart, G., Swedlow, J.R. and Blow, J.J. 2007. ELYS/MEL-28 chromatin association coordinates nuclear pore complex assembly and replication licensing. *Curr. Biol.* 17: 1657-1662.
- Zuccolo, M., Alves, A., Galy, V., Bolhy, S., Formstecher, E., Racine, V., Sibarita, J.B., Fukagawa, T., Shiekhattar, R., Yen, T. and Doye, V. 2007. The human Nup107-160 nuclear pore subcomplex contributes to proper kinetochore functions. *EMBO J.* 26: 1853-1864.
- Franz, C., Walczak, R., Yavuz, S., Santarella, R., Gentzel, M., Askjaer, P., Galy, V., Hetzer, M., Mattaj, I.W. and Antonin, W. 2007. MEL-28/ELYS is required for the recruitment of nucleoporins to chromatin and postmitotic nuclear pore complex assembly. *EMBO Rep.* 8: 165-172.
- Glavy, J.S., Krutchinsky, A.N., Cristea, I.M., Berke, I.C., Boehmer, T., Blobel, G. and Chait, B.T. 2007. Cell-cycle-dependent phosphorylation of the nuclear pore Nup107-160 subcomplex. *Proc. Natl. Acad. Sci. USA* 104: 3811-3816.
- Rasala, B.A., Ramos, C., Harel, A. and Forbes, D.J. 2008. Capture of AT-rich chromatin by ELYS recruits POM121 and NDC1 to initiate nuclear pore assembly. *Mol. Biol. Cell.* 19: 3982-3996.

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.

SOURCE

MEL-28 (cN-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MEL-28 of *C. elegans* 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-83430 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MEL-28 (cN-13) is recommended for detection of MEL-28 of *Caenorhabditis elegans* 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); non cross-reactive with other MEL family members.

Molecular Weight of MEL-28: 201 kDa.

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.

PROTOCOLS

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