SANTA CRUZ BIOTECHNOLOGY, INC.

Vigilin (m2): 293T Lysate: sc-124559

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vigilin, a K homology (KH) protein, is found in the nucleus and cytoplasm of all eukaryotic species. Vigilin contains a unique structure of 14 to 15 consecutively arranged KH domains, which function to mediate RNA-protein binding. Expression of the gene encoding Vigilin, which maps to chromosome 2q37.3, is essential for cell viability. Vigilin is active in heterochromatin formation and cytoplasmic mRNA decay, and can be a useful marker for translational activity. The 80S ribosome co-localizes with Vigilin, which interacts with the ribosomal complex through its C-terminal domain, suggesting its role in the link between tRNA-export and the channeled tRNA-cycle on ribosomes. Intracellular cholesterol upregulates Vigilin expression, and the protein specifically binds to high density lipoprotein molecules to function in the removal of excess cellular cholesterol.

REFERENCES

1. McKnight, G.L., Reasoner, J., Gilbert, T., Sundquist, K.O., Hokland, B., McKernan, P.A., Champagne, J., Johnson, C.J., Bailey, M.C. and Holly, R. 1992. Cloning and expression of a cellular high density lipoprotein-binding protein that is upregulated by cholesterol loading of cells. J. Biol. Chem. 267: 12131-12141.
2. Xia, Y.R., Klisak, I., Sparkes, R.S., Oram, J. and Lusis, A.J. 1993. Localization of the gene for high-density lipoprotein binding protein (HDLBP) to human chromosome 2q37. Genomics 16: 524-525.
3. Plenz, G., Kügler, S., Schnittger, S., Rieder, H., Fonatsch, C. and Müller, P.K. 1994. The human vigilin gene: identification, chromosomal localization and expression pattern. Hum. Genet. 93: 575-582.
4. Kügler, S., Plenz, G. and Müller, P.K. 1996. Two additional 5' exons in the human vigilin gene distinguish it from the chicken gene and provide the structural basis for differential routes of gene expression. Eur. J. Biochem. 238: 410-417.
5. Kügler, S., Grünweller, A., Probst, C., Klinger, M., Müller, P.K. and Kruse, C. 1996. Vigilin contains a functional nuclear localisation sequence and is present in both the cytoplasm and the nucleus. FEBS Lett. 382: 330-334.
6. Dodson, R.E. and Shapiro, D.J. 1997. Vigilin, a ubiquitous protein with 14 K homology domains, is the estrogen-inducible vitellogenin mRNA 3'-untranslated region-binding protein. J. Biol. Chem. 272: 12249-12252.
7. Chiu, D.S., Oram, J.F., LeBoeuf, R.C., Alpers, C.E. and O'Brien, K.D. 1998. High-density lipoprotein-binding protein (HBP)/vigilin is expressed in human atherosclerotic lesions and co-localizes with apolipoprotein E. Arterioscler. Thromb. Vasc. Biol. 17: 2350-2358.
8. Kanamori, H., Dodson, R.E. and Shapiro, D.J. 1998. *In vitro* genetic analysis of the RNA binding site of vigilin, a multi-KH-domain protein. Mol. Cell. Biol. 18: 3991-4003.
9. Cunningham, K.S., Dodson, R.E., Nagel, M.A., Shapiro, D.J. and Schoenberg, D.R. 2000. Vigilin binding selectively inhibits cleavage of the vitello-genin mRNA 3'-untranslated region by the mRNA endonuclease polysomal ribonuclease 1. Proc. Natl. Acad. Sci. USA 97: 12498-12502.

CHROMOSOMAL LOCATION

Genetic locus: Hdlbp (mouse) mapping to 1 D.

PRODUCT

Vigilin (m2): 293T Lysate represents a lysate of mouse Vigilin transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Vigilin (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Vigilin antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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