SANTA CRUZ BIOTECHNOLOGY, INC.

MRP-L39 (m): 293T Lysate: sc-121767

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Mitochondrial ribosomes consist of a large 39S subunit and a small 28S subunit, both of which are comprised of multiple mitochondrial ribosomal proteins (MRPs) that are encoded by nuclear genes and are essential for protein synthesis within mitochondria. MRP-L39 (mitochondrial ribosomal protein L39), also known as MRP-L5, L39mt or L5mt, is a 338 amino acid mitochondrial protein that exists as a component of the 39S ribosomal subunit and works in conjunction with other MRPs to mediate protein synthesis. MRP-L39 exists as two isoforms produced by alternative splicing. Isoform one of MRP-L39 is ubiquitously expressed while isoform two is specifically expressed in heart. The gene encoding MRP-L39 maps to chromosome 21, which makes up about 1.5% of the human genome. Chromosome 21 contains nearly 300 genes and 47 million base pairs. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer's disease, Jervell and Lange-Nielsen syndrome and amyotrophic lateral sclerosis are also associated with chromosome 21.

REFERENCES

1. Spirina, O., Bykhovskaya, Y., Kajava, A.V., O'Brien, T.W., Nierlich, D.P., Mougey, E.B., Sylvester, J.E., Graack, H.R., Wittmann-Liebold, B. and Fischel-Ghodsian, N. 2000. Heart-specific splice-variant of a human mitochondrial ribosomal protein (mRNA processing; tissue specific splicing). Gene 261: 229-234.
2. Müller, S., Stanyon, R., Finelli, P., Archidiacono, N. and Wienberg, J. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. Proc. Natl. Acad. Sci. USA 97: 206-211.
3. Kenmochi, N., Suzuki, T., Uechi, T., Magoori, M., Kuniba, M., Higa, S., Watanabe, K. and Tanaka, T. 2001. The human mitochondrial ribosomal protein genes: mapping of 54 genes to the chromosomes and implications for human disorders. Genomics 77: 65-70.
4. O'Brien, T.W. 2002. Evolution of a protein-rich mitochondrial ribosome: implications for human genetic disease. Gene 286: 73-79.
5. Zhang, Z. and Gerstein, M. 2003. Identification and characterization of over 100 mitochondrial ribosomal protein pseudogenes in the human genome. Genomics 81: 468-480.
6. Robakis, N.K. 2006. The discovery and mapping to chromosome 21 of the Alzheimer's amyloid gene: history revised. J. Alzheimers Dis. 10: 453-455.
7. Sun, X., He, G. and Song, W. 2006. BACE2, as a novel APP θ-secretase, is not responsible for the pathogenesis of Alzheimer's disease in Down syndrome. FASEB J. 20: 1369-1376.
8. Aït Yahya-Graison, E., Aubert, J., Dauphinot, L., Rivals, I., Prieur, M., Golfier, G., Rossier, J., Personnaz, L., Creau, N., Bléhaut, H., Robin, S., Delabar, J.M. and Potier, M.C. 2007. Classification of human chromosome 21 gene-expression variations in Down syndrome: impact on disease phenotypes. Am. J. Hum. Genet. 81: 475-491.

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.

CHROMOSOMAL LOCATION

Genetic locus: Mrpl39 (mouse) mapping to 16 C3.3.

PRODUCT

MRP-L39 (m): 293T Lysate represents a lysate of mouse MRP-L39 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MRP-L39 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive MRP-L39 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.

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.