SANTA CRUZ BIOTECHNOLOGY, INC.

EXOSC9 (m2): 293T Lysate: sc-120144

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The exosome is a multi-subunit complex composed of several highly conserved subunits, some of which are 3′ to 5′ exoribonucleases. The complex is involved in a variety of cellular processes and is responsible for degrading unstable mRNAs that contain AU-rich (ARE) elements in their untranslated 3′ region. EXOSC9 (exosome component 9), also called p5, p6, PM/Scl-75 or RRP45, is a component of the exosome complex and is required for processing of 7S pre-RNA to mature 5.8S rRNA. Located in the nucleus and cytoplasm, EXOSC9 is a ribonuclease that is involved in mRNA degradation, but does not contribute to stability of the exosome complex. Unlike most of the exosome subunits, EXOSC9 is thought to act both independently and as a member of the exosome, thus making it an essential part of ARE-mediated mRNA decay. EXOSC9 is proteolytically cleaved during apoptosis and is implicated in certain autoimmune diseases such as myositis and scleroderma. Four isoforms of this protein exist due to alternative splicing events.

REFERENCES

1. Brouwer, R., et al. 2002. Autoantibodies directed to novel components of the PM/Scl complex, the human exosome. Arthritis Res. 4: 134-138.
2. Mukherjee, D., et al. 2002. The mammalian exosome mediates the efficient degradation of mRNAs that contain AU-rich elements. EMBO J. 21: 165-174.
3. Raijmakers, R., et al. 2002. Protein-protein interactions between human exosome components support the assembly of RNase PH-type subunits into a six-membered PNPase-like ring. J. Mol. Biol. 323: 653-663.
4. Raijmakers, R., et al. 2003. The association of the human PM/Scl-75 autoantigen with the exosome is dependent on a newly identified N-terminus. J. Biol. Chem. 278: 30698-30704.
5. Raijmakers, R., et al. 2004. PM-Scl-75 is the main autoantigen in patients with the polymyositis/scleroderma overlap syndrome. Arthritis Rheum. 50: 565-569.
6. Mahler, M., et al. 2005. Clinical evaluation of autoantibodies to a novel PM/Scl peptide antigen. Arthritis Res. Ther. 7: R704-R713.
7. Roh, S.G., et al. 2007. Identification of differentially expressed transcripts in bovine rumen and abomasum using a differential display method. J. Anim. Sci. 85: 395-403.
8. Schilders, G., et al. 2007. Caspase-mediated cleavage of the exosome subunit PM/Scl-75 during apoptosis. Arthritis Res. Ther. 9: R12.
9. van Dijk, E.L., et al. 2007. Human cell growth requires a functional cytoplasmic exosome, which is involved in various mRNA decay pathways. RNA 13: 1027-1035.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Exosc9 (mouse) mapping to 3 B.

PRODUCT

EXOSC9 (m2): 293T Lysate represents a lysate of mouse EXOSC9 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

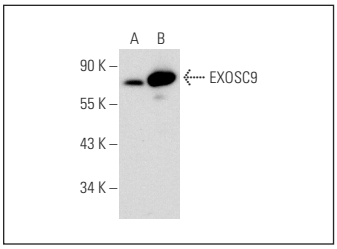
APPLICATIONS

EXOSC9 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive EXOSC9 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.

EXOSC9 (2337C3a): sc-81087 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse EXOSC9 expression in EXOSC9 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



EXOSC9 (2337C3a): sc-81087. Western blot analysis of EXOSC9 expression in non-transfected: sc-117752 (**A**) and mouse EXOSC9 transfected: sc-120144 (**B**) 293T whole cell lysates.

RESEARCH USE

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