SANTA CRUZ BIOTECHNOLOGY, INC.

EXOSC9 (2337C3a): sc-81087

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.

CHROMOSOMAL LOCATION

Genetic locus: EXOSC9 (human) mapping to 4q27; Exosc9 (mouse) mapping to 3 B.

SOURCE

EXOSC9 (2337C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the C-terminus of EXOSC9 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

RESEARCH USE

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

APPLICATIONS

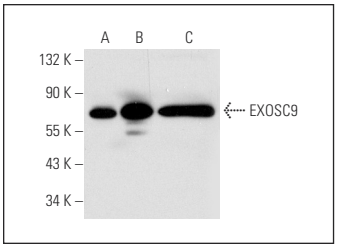
EXOSC9 (2337C3a) is recommended for detection of EXOSC9 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for EXOSC9 siRNA (h): sc-88907, EXOSC9 siRNA (m): sc-144981, EXOSC9 shRNA Plasmid (h): sc-88907-SH, EXOSC9 shRNA Plasmid (m): sc-144981-SH, EXOSC9 shRNA (h) Lentiviral Particles: sc-88907-V and EXOSC9 shRNA (m) Lentiviral Particles: sc-144981-V.

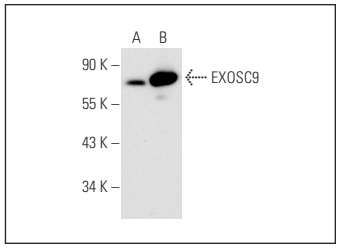
Molecular Weight of EXOSC9: 60 kDa.

Positive Controls: EXOSC9 (m2): 293T Lysate: sc-120144 or HeLa whole cell lysate: sc-2200.

DATA



EXOSC9 (2337C3a): sc-81087. Western blot analysis of EXOSC9 expression in non-transfected 293T: sc-117752 (**A**), mouse EXOSC9 transfected 293T: sc-120143 (**B**) and HeLa (**C**) whole cell lysates.



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.

SELECT PRODUCT CITATIONS

1. Richard, P., et al. 2013. A SUMO-dependent interaction between senataxin and the exosome, disrupted in the neurodegenerative disease AOA2, targets the exosome to sites of transcription-induced DNA damage. Genes Dev. 27: 2227-2232.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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