

# AdSS1 (H-2): sc-166470

## BACKGROUND

Adenylosuccinate synthetase isozyme 1 (AdSS1), also known as IMP-aspartate ligase 1, is a cytoplasmic homodimer belonging to the adenylosuccinate synthetase family. The gene coding for the protein maps against chromosome 14q32.33. AdSS1 catalyses the committer step in the biosynthesis of AMP. It is a target for antibiotics, herbicides and antitumor drugs due to its importance in purine biosynthesis. AdSS1 is upregulated during muscle development and is highly expressed in muscle tissues such as skeletal muscle, tongue, heart and esophagus.

## REFERENCES

1. Guicherit, O.M., et al. 1994. Amplification of an adenylosuccinate synthetase gene in alanosine-resistant murine T-lymphoma cells. Molecular cloning of a cDNA encoding the "non-muscle" isozyme. *J. Biol. Chem.* 269: 4488-4496.
2. Lewis, A.L., et al. 1996. Structure and expression of the murine muscle adenylosuccinate synthetase gene. *J. Biol. Chem.* 271: 22647-22656.
3. Wang, W., et al. 1997. Relationship of conserved residues in the IMP binding site to substrate recognition and catalysis in *Escherichia coli* adenylosuccinate synthetase. *J. Biol. Chem.* 272: 16911-16916.
4. Lewis, A.L., et al. 1999. Combinatorial interactions regulate cardiac expression of the murine adenylosuccinate synthetase 1 gene. *J. Biol. Chem.* 274: 14188-14197.
5. Xia, Y., et al. 2000. Electrical stimulation of neonatal cardiac myocytes activates the NFAT3 and GATA4 pathways and upregulates the adenylosuccinate synthetase 1 gene. *J. Biol. Chem.* 275: 1855-1863.
6. Wen, H.Y., et al. 2002. The adenylosuccinate synthetase-1 gene is activated in the hypertrophied heart. *J. Cell. Mol. Med.* 6: 235-243.
7. Iancu, C.V., et al. 2002. IMP, GTP, and 6-phosphoryl-IMP complexes of recombinant mouse muscle adenylosuccinate synthetase. *J. Biol. Chem.* 277: 26779-26787.

## CHROMOSOMAL LOCATION

Genetic locus: ADSSL1 (human) mapping to 14q32.33; Adssl1 (mouse) mapping to 12 F1.

## SOURCE

AdSS1 (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-30 at the N-terminus of AdSS1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166470 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

AdSS1 (H-2) is recommended for detection of AdSS1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for AdSS1 siRNA (h): sc-105046, AdSS1 siRNA (m): sc-140889, AdSS1 shRNA Plasmid (h): sc-105046-SH, AdSS1 shRNA Plasmid (m): sc-140889-SH, AdSS1 shRNA (h) Lentiviral Particles: sc-105046-V and AdSS1 shRNA (m) Lentiviral Particles: sc-140889-V.

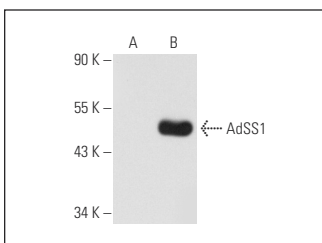
Molecular Weight of AdSS1: 48 kDa.

Positive Controls: rat skeletal muscle extract: sc-364810 or AdSS1 (h): 293T Lysate: sc-116225.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



AdSS1 (H-2): sc-166470. Western blot analysis of AdSS1 expression in non-transfected: sc-117752 (A) and human AdSS1 transfected: sc-116225 (B) 293T whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.