

MACS1 (K-17): sc-243396

BACKGROUND

Acyl-CoA synthetases are important for synthesis of cellular lipids and for β -oxidation degradation. MACS1 (middle-chain acyl-CoA synthetase 1), also known as ACSM1 (acyl-CoA synthetase medium-chain family member 1), BUCS1 (butyryl-coenzyme A synthetase 1) or LAE (lipoate-activating enzyme), is a 577 amino acid mitochondrial matrix protein that generates the substrate for lipoyltransferase in a GTP-dependent manner. Existing as a monomer, MACS1 belongs to the ATP-dependent AMP-binding enzyme family and undergoes alternative splicing to produce two isoforms. The gene encoding MACS1 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. Giant axonal neuropathy, Rubinstein-Taybi syndrome and Crohn's disease are associated with chromosome 16.

REFERENCES

- Baraitser, M. and Preece, M.A. 1983. The Rubinstein-Taybi syndrome: occurrence in two sets of identical twins. *Clin. Genet.* 23: 318-320.
- Bomont, P., et al. 2000. The gene encoding gigaxonin, a new member of the cytoskeletal BTB/kelch repeat family, is mutated in giant axonal neuropathy. *Nat. Genet.* 26: 370-374.
- Fujino, T., et al. 2001. Molecular identification and characterization of two medium-chain acyl-CoA synthetases, MACS1 and the Sa gene product. *J. Biol. Chem.* 276: 35961-35966.
- Iwai, N., et al. 2003. An acyl-CoA synthetase gene family in chromosome 16p12 may contribute to multiple risk factors. *Hypertension* 41: 1041-1046.
- Cho, J.H. 2004. Advances in the genetics of inflammatory bowel disease. *Curr. Gastroenterol. Rep.* 6: 467-473.

CHROMOSOMAL LOCATION

Genetic locus: ACSM1 (human) mapping to 16p12.3; Acs1 (mouse) mapping to 7 F2.

SOURCE

MACS1 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MACS1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-243396 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

MACS1 (K-17) is recommended for detection of MACS1 of human and mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 MACS1 siRNA (h): sc-93228, MACS1 siRNA (m): sc-149210, MACS1 shRNA Plasmid (h): sc-93228-SH, MACS1 shRNA Plasmid (m): sc-149210-SH, MACS1 shRNA (h) Lentiviral Particles: sc-93228-V and MACS1 shRNA (m) Lentiviral Particles: sc-149210-V.

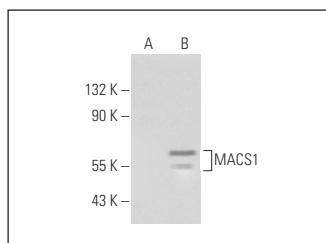
Molecular Weight of MACS1 isoforms: 65/24 kDa.

Positive Controls: MACS1 (m2): 293T Lysate: sc-127117.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MACS1 (K-17): sc-243396. Western blot analysis of MACS1 expression in non-transfected: sc-117752 (A) and mouse MACS1 transfected: sc-127117 (B) 293T whole cell lysates.

RESEARCH USE

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