SANTA CRUZ BIOTECHNOLOGY, INC.

ALMS1 (K-20): sc-54506

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The Power to Question

BACKGROUND

ALMS1 (Alström syndrome protein 1), or ALSS, is a widely expressed protein that localizes to centrosomes and the basal bodies of cilia. It consists of a putative leucine zipper, a tandem repeat domain and a stretch of 17 glutamine residues followed by 7 alanine residues near the N-terminal. Three ALMS1 isoforms exist due to splicing variation. The first isoform is the full length ALMS1. Isoform 2 lacks amino acids 4,121-4,167. The third isoform is only 3,858 amino acids long and it contains an alternate sequence for amino acids 3,850-3,858. ALMS1 may play a role in intracellular transport, microtubule organization and basal body and cilia function. A mutation in the gene encoding ALMS1 results in the dysfunction of basal bodies and/or cilia. This dysfunction is suggested to be the cause of Alström syndrome, a rare autosomal-recessive condition. Symptoms include Insulin resistance, type 2 diabetes and obesity.

REFERENCES

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2. Collin, G.B., et al. 2005. ALMS1-disrupted mice recapitulate human Alström syndrome. Hum. Mol. Genet. 14: 2323-2333.
3. Farooqi, I.S. 2005. Genetic and hereditary aspects of childhood obesity. Best Pract. Res. Clin. Endocrinol. Metab. 19: 359-374.
4. Hearn, T., et al. 2005. Subcellular localization of ALMS1 supports involvement of centrosome and basal body dysfunction in the pathogenesis of obesity, Insulin resistance, and type 2 diabetes. Diabetes 54: 1581-1587.
5. Arsov, T., et al. 2006. Adaptive failure to high-fat diet characterizes steatohepatitis in ALMS1 mutant mice. Biochem. Biophys. Res. Commun. 342: 1152-1159.
6. Arsov, T., et al. 2006. Fat aussie-a new Alström syndrome mouse showing a critical role for ALMS1 in obesity, diabetes, and spermatogenesis. Mol. Endocrinol. 20: 1610-1622.
7. Patel, S., et al. 2006. Common variations in the ALMS1 gene do not contribute to susceptibility to type 2 diabetes in a large white UK population. Diabetologia 49: 1209-1213.
8. Minton, J.A., et al. 2006. Syndromic obesity and diabetes: changes in body composition with age and mutation analysis of ALMS1 in 12 United Kingdom kindreds with Alström syndrome. J. Clin. Endocrinol. Metab. 91: 3110-3116.
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CHROMOSOMAL LOCATION

Genetic locus: ALMS1 (human) mapping to 2p13.1.

SOURCE

ALMS1 (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ALMS1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-54506 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ALMS1 (K-20) is recommended for detection of ALMS1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ALMS1 (K-20) is also recommended for detection of ALMS1 in additional species, including equine.

Suitable for use as control antibody for ALMS1 siRNA (h): sc-72345, ALMS1 shRNA Plasmid (h): sc-72345-SH and ALMS1 shRNA (h) Lentiviral Particles: sc-72345-V.

Molecular Weight of ALMS1: 461 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.