

ALAS-H (N-20): sc-32333

BACKGROUND

5-aminolevulinate synthase 1 (ALAS-H) and 2 (ALAS-E) are two isoforms of ALAS, an enzyme catalyzing the first step of the heme biosynthetic pathway in mammals. The erythroid-specific isoenzyme, ALAS-E, regulates the first step of hematopoietic cell differentiation and iron metabolism in the liver. ALAS-H is a housekeeping protein which mediates synthesis of early heme in the mitochondria of most cells. Succinyl CoA associates with ALAS-E in protein conformation change and translocation of ALAS-E into the mitochondria and does not interact with ALAS-H. The ALAS-E 5'-flanking region contains binding sites for nuclear activators such as GATA-1, NF-E2 and EKLF. Since the ALAS gene maps to the X chromosome, mutation of the gene leads to the pyridoxine-refractory X-linked sideroblastic anemia.

REFERENCES

1. Conboy, J.G., Cox, T.C., Bottomley, S.S., Bawden, M.J. and May, B.K. 1992. Human erythroid 5-aminolevulinate synthase. Gene structure and species-specific differences in alternative RNA splicing. *J. Biol. Chem.* 267: 18753-18758.
2. Kramer, M.F., Gunaratne, P. and Ferreira, G.C. 2000. Transcriptional regulation of the murine erythroid-specific 5-aminolevulinate synthase gene. *Gene* 247: 153-166.
3. Furuyama, K. and Sassa, S. 2000. Interaction between succinyl CoA synthetase and the heme-biosynthetic enzyme ALAS-E is disrupted in sideroblastic anemia. *J. Clin. Invest.* 105: 757-764.
4. Zhang, J. and Ferreira, G.C. 2002. Transient state kinetic investigation of 5-Aminolevulinate synthase reaction mechanism. *J. Biol. Chem.* 277: 44660-44669.

CHROMOSOMAL LOCATION

Genetic locus: ALAS1 (human) mapping to 3p21.2; Alas1 (mouse) mapping to 9 F1.

SOURCE

ALAS-H (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of mature ALAS-H 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-32333 P, (100 µg 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

ALAS-H (N-20) is recommended for detection of precursor and mature ALAS-H of mouse, rat and 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).

ALAS-H (N-20) is also recommended for detection of precursor and mature ALAS-H in additional species, including canine.

Suitable for use as control antibody for ALAS-H siRNA (h): sc-44728, ALAS-H siRNA (m): sc-44729, ALAS-H shRNA Plasmid (h): sc-44728-SH, ALAS-H shRNA Plasmid (m): sc-44729-SH, ALAS-H shRNA (h) Lentiviral Particles: sc-44728-V and ALAS-H shRNA (m) Lentiviral Particles: sc-44729-V.

Molecular Weight of ALAS-H precursor: 71 kDa.

Molecular Weight of mature ALAS-H: 65 kDa.

Positive Controls: JAR cell lysate: sc-2276, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

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.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **ALAS-H (F-5): sc-137093** or **ALAS-H (A-6): sc-365153**, our highly recommended monoclonal alternatives to ALAS-H (N-20).