SANTA CRUZ BIOTECHNOLOGY, INC.

ALAS-E (Z5): sc-100668

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 differentation 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., et al. 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., et al. 2000. Transcriptional regu-lation 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.

CHROMOSOMAL LOCATION

Genetic locus: ALAS2 (human) mapping to Xp11.21; Alas2 (mouse) mapping to X F3.

SOURCE

ALAS-E (Z5) is a mouse monoclonal antibody raised against recombinant ALAS-E of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ALAS-E (Z5) is recommended for detection of precursor and mature ALAS-E of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ALAS-E siRNA (h): sc-44726, ALAS-E siRNA (m): sc-44727, ALAS-E shRNA Plasmid (h): sc-44726-SH, ALAS-E shRNA Plasmid (m): sc-44727-SH, ALAS-E shRNA (h) Lentiviral Particles: sc-44726-V and ALAS-E shRNA (m) Lentiviral Particles: sc-44727-V.

Molecular Weight of ALAS-E precursor: 60 kDa.

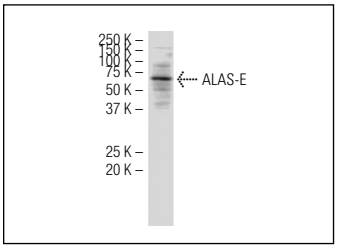
Molecular Weight of mature ALAS-E: 65 kDa.

Positive Controls: mouse heart extract: sc-2254 or Raw 264.7 whole cell lysate: sc-2211.

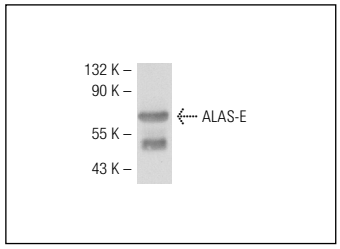
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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).

DATA



ALAS-E (Z5): sc-100668. Western blot analysis of ALAS-E expression in Raw 264.7 whole cell lysate.



ALAS-E (Z5): sc-100668. Western blot analysis of ALAS-E expression in mouse heart tissue extract.

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.