

# ALAS-E (M-100): sc-50530

## BACKGROUND

5-aminolevulinic acid 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-aminolevulinic acid 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-aminolevulinic acid synthase gene. *Gene* 247: 153-166.

## CHROMOSOMAL LOCATION

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

## SOURCE

ALAS-E (M-100) is a rabbit polyclonal antibody raised against amino acids 61-160 mapping near the N-terminus of ALAS-E of mouse origin.

## PRODUCT

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

## APPLICATIONS

ALAS-E (M-100) is recommended for detection of precursor and mature ALAS-E of mouse, rat and, to a lesser extent, 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)], 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 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.

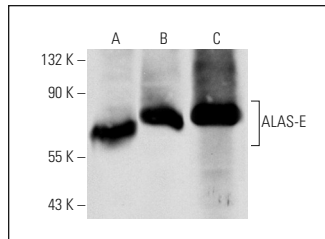
Molecular Weight of ALAS-E: 65/60 kDa.

Positive Controls: ALAS-E (m): 293T Lysate: sc-118325, rat liver extract: sc-2395 or rat heart extract: sc-2393.

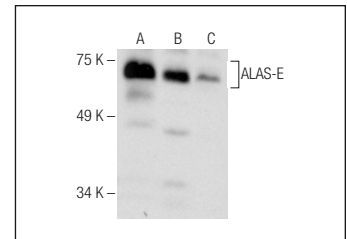
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



ALAS-E (M-100): sc-50530. Western blot analysis of ALAS-E expression in non-transfected: sc-117752 (A) and mouse ALAS-E transfected: sc-118325 (B) 293T whole cell lysates and mouse heart tissue extract (C).



ALAS-E (M-100): sc-50530. Western blot analysis of ALAS-E expression in human heart (A), rat heart (B) and rat liver (C) tissue extracts.

## 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) or our catalog for detailed protocols and support products.

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Try **ALAS-E (D-4): sc-166739**, our highly recommended monoclonal alternative to ALAS-E (M-100).