SANTA CRUZ BIOTECHNOLOGY, INC.

ALAS-H (H-154): sc-50531

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

ALAS-H (H-154) is a rabbit polyclonal antibody raised against amino acids 57-210 mapping near the N-terminus of 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.

STORAGE

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

APPLICATIONS

ALAS-H (H-154) is recommended for detection of precursor and mature ALAS-H of human and, to a lesser extent, mouse and rat 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), immunohistochemistry (including paraffin-embedded sections) (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 (H-154) is also recommended for detection of precursor and mature ALAS-H in additional species, including equine and 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 AKR1CL2 precursor: 71 kDa.

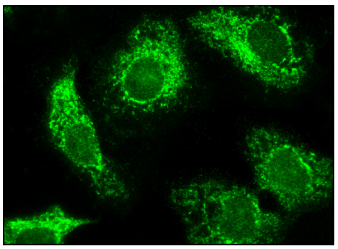
Molecular Weight mature of AKR1CL2: 65 kDa.

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

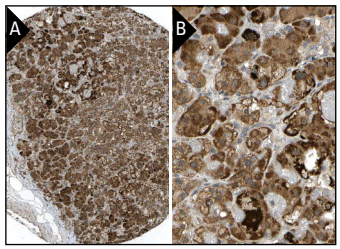
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



ALAS-H (H-154): sc-50531. Immunofluorescence staining of formalin-fixed Hep G2 cells showing mitochondrial localization.



ALAS-H (H-154): sc-50531. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of cortical cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Hooda, J., et al. 2013. Enhanced heme function and mitochondrial respiration promote the progression of lung cancer cells. PLoS ONE 8: e63402.

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.

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 (H-154).