SANTA CRUZ BIOTECHNOLOGY, INC.

HAL (V-21): sc-133646

BACKGROUND

HAL (histidine ammonia-lyase), also known as histidase, HIS or HSTD, is a 657 amino acid protein that belongs to the PAL/histidase family. Considered a cytosolic enzyme, HAL catalyzes the first reaction in histidine catabolism, the non-oxidative deamination of L-histidine to trans-urocanic acid. Urocanic acid is the main ultraviolet (UV) light absorption factor of the stratum corneum of the skin. Defects in the gene encoding HAL causes histidinemia, also referred to as histidinuria. Histidinemia is an autosomal recessive disease characterized by increased levels of histidine, histamine and imidazole in blood, urine and cerebrospinal fluid. Histidinemia also results in decreased levels of the metabolite urocanic acid in blood, urine and skin cells. Tryptophan and 1-methyltryptophan are strong inhibitors of HAL.

REFERENCES

1. Taylor, R.G., et al. 1990. Cloning and expression of rat histidase. Homology to two bacterial histidases and four phenylalanine ammonia-lyases. J. Biol. Chem. 265: 18192-18199.
2. Taylor, R.G., et al. 1991. Histidase and histidinemia. Clinical and molecular considerations. Mol. Biol. Med. 8: 101-116.
3. Torres, N., et al. 1998. Histidase expression is regulated by dietary protein at the pretranslational level in rat liver. J. Nutr. 128: 818-824.
4. Schwede, T.F., et al. 1999. Homogenization and crystallization of histidine ammonia-lyase by exchange of a surface cysteine residue. Protein Eng. 12: 151-153.
5. Baedeker, M., et al. 2002. Structures of two histidine ammonia-lyase modifications and implications for the catalytic mechanism. Eur. J. Biochem. 269: 1790-1797.
6. Baedeker, M., et al. 2002. Autocatalytic peptide cyclization during chain folding of histidine ammonia-lyase. Structure 10: 61-67.
7. Poppe, L., et al. 2005. Friedel-Crafts-type mechanism for the enzymatic elimination of ammonia from histidine and phenylalanine. Angew. Chem. Int. Ed. Engl. 44: 3668-3688.

CHROMOSOMAL LOCATION

Genetic locus: HAL (human) mapping to 12q23.1; Hal (mouse) mapping to 10 C2.

SOURCE

HAL (V-21) is a Protein A purified rabbit polyclonal antibody raised against synthetic HAL peptide of human origin.

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.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

HAL (V-21) is recommended for detection of HAL of mouse, rat 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)], 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).

Suitable for use as control antibody for HAL siRNA (h): sc-95794, HAL siRNA (m): sc-145892, HAL shRNA Plasmid (h): sc-95794-SH, HAL shRNA Plasmid (m): sc-145892-SH, HAL shRNA (h) Lentiviral Particles: sc-95794-V and HAL shRNA (m) Lentiviral Particles: sc-145892-V.

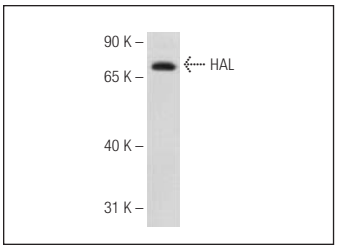
Molecular Weight of HAL: 72 kDa.

Positive Controls: human muscle tissue or human fetal liver extract.

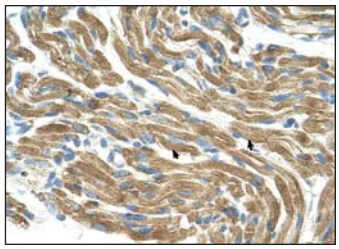
RECOMMENDED SECONDARY REAGENTS

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



HAL (V-21): sc-133646. Western blot analysis of HAL expression in human fetal liver tissue extract.



HAL (V-21): sc-133646. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human muscle tissue showing cytoplasmic localization.

RESEARCH USE

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