SANTA CRUZ BIOTECHNOLOGY, INC.

IAH1 (C-12): sc-137523

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The Power to Question

BACKGROUND

Isoamyl acetate is sythesized from isoamyl alcohol and acetyl coenzyme A in *Saccharomyces cerevisiae* with the assistance of alcohol acetyltransferase (AATFase). IAH1 (isoamyl acetate-hydrolyzing esterase 1 homolog) is a 248 amino acid protein that belongs to the "GDSL" lipolytic enzyme family and IAH1 subfamily. IAH1 is a probable lipase and is an import component in the fermentation process of alcohol. The gene encoding IAH1 maps to human chromosome 2p25.1 and mouse chromosome 12 A1.3; overexpression of the IAH1 gene may lead to decreased levels of ethyl acetate, isoamyl acetate, hexyl acetate and 2-phenylethyl acetate. Human chromosome 2 consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

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2. Fukuda, K., et al. 2000. Purification and characterization of isoamyl acetate-hydrolyzing esterase encoded by the IAH1 gene of *Saccharomyces cerevisiae* from a recombinant *Escherichia coli*. Appl. Microbiol. Biotechnol. 53: 596-600.
3. Shulenin, S., et al. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (White) gene subfamily maps to human chromosome 2p21 in the region of the Sitosterolemia locus. Cytogenet. Cell Genet. 92: 204-208.
4. Hearn, T., et al. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. Nat. Genet. 31: 79-83.
5. Beltran, G., et al. 2006. Integration of transcriptomic and metabolic analyses for understanding the global responses of low-temperature winemaking fermentations. FEMS Yeast Res. 6: 1167-1183.
6. Lilly, M., et al. 2006. The effect of increased yeast alcohol acetyltransferase and esterase activity on the flavour profiles of wine and distillates. Yeast 23: 641-659.
7. Molina, A.M., et al. 2007. Influence of wine fermentation temperature on the synthesis of yeast-derived volatile aroma compounds. Appl. Microbiol. Biotechnol. 77: 675-687.
8. Ma, J., et al. 2011. Crystal structure of isoamyl acetate-hydrolyzing esterase from *Saccharomyces cerevisiae* reveals a novel active site architecture and the basis of substrate specificity. Proteins 79: 662-668.

CHROMOSOMAL LOCATION

Genetic locus: IAH1 (human) mapping to 2p25.1; Iah1 (mouse) mapping to 12 A1.3.

SOURCE

IAH1 (C-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of IAH1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-137523 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IAH1 (C-12) is recommended for detection of IAH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IAH1 (C-12) is also recommended for detection of IAH1 in additional species, including equine and bovine.

Suitable for use as control antibody for IAH1 siRNA (h): sc-94810, IAH1 siRNA (m): sc-146127, IAH1 shRNA Plasmid (h): sc-94810-SH, IAH1 shRNA Plasmid (m): sc-146127-SH, IAH1 shRNA (h) Lentiviral Particles: sc-94810-V and IAH1 shRNA (m) Lentiviral Particles: sc-146127-V.

Molecular Weight of IAH1: 28 kDa.

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) 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.

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.