

# AHCYL1 (N-15): sc-162507

## BACKGROUND

AHCYL1 (S-adenosylhomocysteine hydrolase-like 1), also known as DCAL, IRBIT or PRO0233, is an endoplasmic reticulum (ER) protein that is involved in amino acid biosynthesis. Expressed in dendritic blood cells (DCs), AHCYL1 functions to catalyze the H<sub>2</sub>O-dependent conversion of S-adenosyl-L-homocysteine to L-homocysteine and adenosine, a reaction that uses NAD as a cofactor. Additionally, AHCYL1 contains a PDZ-binding domain and a PEST region through which it can interact with IP3R-1 (inositol 1,4,5-trisphosphate (IP3) receptor-1), a protein involved in various signaling pathways. This interaction lowers the affinity of IP3R-1 for its substrate, IP3, thereby decreasing the rate of IP3-IP3R-1 binding. AHCYL1 shares 100% homology with its mouse counterpart, indicating a highly conserved function between species. Two isoforms of AHCYL1 are expressed due to alternative splicing events.

## REFERENCES

- Dekker, J.W., et al. 2002. Identification of an S-adenosylhomocysteine hydrolase-like transcript induced during dendritic cell differentiation. *Immunogenetics* 53: 993-1001.
- Ando, H., et al. 2003. IRBIT, a novel inositol 1,4,5-trisphosphate (IP3) receptor-binding protein, is released from the IP3 receptor upon IP3 binding to the receptor. *J. Biol. Chem.* 278: 10602-10612.
- Cooper, B.J., et al. 2006. Suppression and overexpression of adenosylhomocysteine hydrolase-like protein 1 (AHCYL1) influences zebrafish embryo development: a possible role for AHCYL1 in inositol phospholipid signaling. *J. Biol. Chem.* 281: 22471-22484.
- Ando, H., et al. 2006. IRBIT suppresses IP3 receptor activity by competing with IP3 for the common binding site on the IP3 receptor. *Mol. Cell* 22: 795-806.
- Shirakabe, K., et al. 2006. IRBIT, an inositol 1,4,5-trisphosphate receptor-binding protein, specifically binds to and activates pancreas-type Na<sup>+</sup>/HCO<sub>3</sub> cotransporter 1 (pNBC1). *Proc. Natl. Acad. Sci. USA* 103: 9542-9547.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 607826. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: AHCYL1 (human) mapping to 1p13.3; Ahcyl1 (mouse) mapping to 3 F2.3.

## SOURCE

AHCYL1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of AHCYL1 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.

Blocking peptide available for competition studies, sc-162507 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

AHCYL1 (N-15) is recommended for detection of AHCYL1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AHCYL1 (N-15) is also recommended for detection of AHCYL1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for AHCYL1 siRNA (h): sc-88017, AHCYL1 siRNA (m): sc-140914, AHCYL1 shRNA Plasmid (h): sc-88017-SH, AHCYL1 shRNA Plasmid (m): sc-140914-SH, AHCYL1 shRNA (h) Lentiviral Particles: sc-88017-V and AHCYL1 shRNA (m) Lentiviral Particles: sc-140914-V.

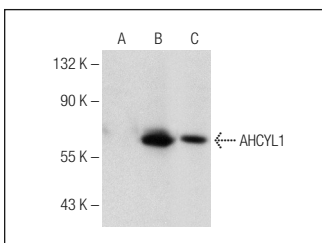
Molecular Weight of AHCYL1: 60 kDa.

Positive Controls: AHCYL1 (h4): 293T Lysate: sc-112509, HeLa whole cell lysate: sc-2200 or LNCaP cell lysate: sc-2231.

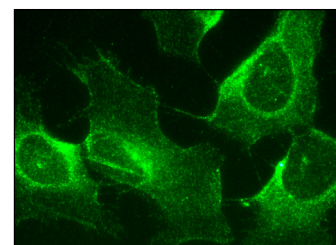
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



AHCYL1 (N-15): sc-162507. Western blot analysis of AHCYL1 expression in non-transfected 293T: sc-117752 (A), human AHCYL1 transfected 293T: sc-112509 (B) and LNCaP (C) whole cell lysates.



AHCYL1 (N-15): sc-162507. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## 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.