

# AHCYL1/2 (H-160): sc-134650

## BACKGROUND

AHCYL1 (S-adenosylhomocysteine hydrolase-like 1), also known as DCAL, IRBIT or PR00233, and AHCYL2 (S-adenosylhomocysteine hydrolase-like 2) are endoplasmic reticulum (ER) proteins involved in amino acid biosynthesis. Expressed in dendritic blood cells (DCs), AHCYL1 and AHCYL2 function 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.

## REFERENCES

- Dekker, J.W., Budhia, S., Angel, N.Z., Cooper, B.J., Clark, G.J., Hart, D.N. and Kato, M. 2002. Identification of an S-adenosylhomocysteine hydro-lase-like transcript induced during dendritic cell differentiation. *Immunogenetics* 53: 993-1001.
- Ando, H., Mizutani, A., Matsu-ura, T. and Mikoshiba, K. 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., Key, B., Carter, A., Angel, N.Z., Hart, D.N. and Kato, M. 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., Mizutani, A., Kiefer, H., Tsuzurugi, D., Michikawa, T. and Mikoshiba, K. 2006. IRBIT suppresses IP3 receptor activity by competing with IP3 for the common binding site on the IP3 receptor. *Mol. Cell* 22: 795-806.
- 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, AHCYL2 (human) mapping to 7q32.1; Ahcyl1 (mouse) mapping to 3 F2.3, Ahcyl2 (mouse) mapping to 6 A3.3.

## SOURCE

AHCYL1/2 (H-160) is a rabbit polyclonal antibody raised against amino acids 1-160 mapping at 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.

## RESEARCH USE

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

## APPLICATIONS

AHCYL1/2 (H-160) is recommended for detection of AHCYL1 and AHCYL2 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).

AHCYL1/2 (H-160) is also recommended for detection of AHCYL1 and AHCYL2 in additional species, including equine, bovine, porcine and avian.

Molecular Weight of AHCYL1: 60 kDa.

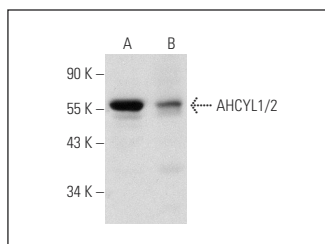
Molecular Weight of AHCYL2: 66 kDa.

Positive Controls: ME-180 whole cell lysate or HeLa whole cell lysate: sc-2200.

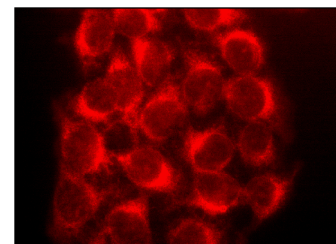
## RECOMMENDED SECONDARY REAGENTS

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



AHCYL1/2 (H-160): sc-134650. Western blot analysis of AHCYL1/2 expression in HeLa (A) and ME-180 (B) whole cell lysates.



AHCYL1/2 (H-160): sc-134650. 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.



Try **AHCYL1/2 (D-7): sc-271581**, our highly recommended monoclonal alternative to AHCYL1/2 (H-160).