

EHD2 (C-18): sc-70263

BACKGROUND

Eps15 homology domain (EHD)-containing proteins function in the exit of receptors and other membrane proteins from the endosomal recycling compartment. EHD2 (EH-domain containing 2), also known as PAST2, is a 543 amino acid protein that contains one EF-hand domain and one EH domain. Expressed at high levels in heart and at lower levels in lung, placenta and skeletal muscle, EHD2 interacts with various proteins such as the glucose transporter Glut4 and the endocytotic-associated protein EHBP1. When EHD2 associates with Insulin-induced Glut4, it can recruit Glut4 to the plasma membrane, thereby allowing Glut4 to bind glucose and regulate blood sugar levels. Additionally, EHD2 interacts with EHBP1 and is thought to link EHBP1-associated endocytotic events with actin cytoskeleton dynamics. Through its interactions with these two proteins, EHD2 is involved in both maintaining blood glucose levels and mediating actin-associated endocytosis.

REFERENCES

- Pohl, U., Smith, J.S., Tachibana, I., Ueki, K., Lee, H.K., Ramaswamy, S., Wu, Q., Mohrenweiser, H.W., Jenkins, R.B. and Louis, D.N. 2000. EHD2, EHD3, and EHD4 encode novel members of a highly conserved family of EH domain-containing proteins. *Genomics* 63: 255-262.
- Park, S.Y., Ha, B.G., Choi, G.H., Ryu, J., Kim, B., Jung, C.Y. and Lee, W. 2004. EHD2 interacts with the Insulin-responsive glucose transporter (Glut4) in rat adipocytes and may participate in Insulin-induced Glut4 recruitment. *Biochemistry* 43: 7552-7562.
- Guilherme, A., Soriano, N.A., Bose, S., Holik, J., Bose, A., Pomerleau, D.P., Fuciniatti, P., Leszyk, J., Corvera, S. and Czech, M.P. 2004. EHD2 and the novel EH domain binding protein EHBP1 couple endocytosis to the actin cytoskeleton. *J. Biol. Chem.* 279: 10593-10605.
- Naslavsky, N. and Caplan, S. 2005. C-terminal EH-domain-containing proteins: consensus for a role in endocytic trafficking, EH? *J. Cell. Sci.* 118: 4093-4101.
- Braun, A., Pinyol, R., Dahlhaus, R., Koch, D., Fonarev, P., Grant, B.D., Kessels, M.M. and Qualmann, B. 2005. EHD proteins associate with syndapin I and II and such interactions play a crucial role in endosomal recycling. *Mol. Biol. Cell* 16: 3642-3658.
- Daumke, O., Lundmark, R., Vallis, Y., Martens, S., Butler, P.J. and McMahon, H.T. 2007. Architectural and mechanistic insights into an EHD ATPase involved in membrane remodelling. *Nature* 449: 923-927.
- George, M., Ying, G., Rainey, M.A., Solomon, A., Parikh, P.T., Gao, Q., Band, V. and Band, H. 2007. Shared as well as distinct roles of EHD proteins revealed by biochemical and functional comparisons in mammalian cells and *C. elegans*. *BMC Cell Biol.* 8: 3.

CHROMOSOMAL LOCATION

Genetic locus: EHD2 (human) mapping to 19q13.33; Ehd2 (mouse) mapping to 7 A2.

SOURCE

EHD2 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EHD2 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-70263 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

EHD2 (C-18) is recommended for detection of EHD2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

EHD2 (C-18) is also recommended for detection of EHD2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EHD2 siRNA (h): sc-40517, EHD2 siRNA (m): sc-40518, EHD2 shRNA Plasmid (h): sc-40517-SH, EHD2 shRNA Plasmid (m): sc-40518-SH, EHD2 shRNA (h) Lentiviral Particles: sc-40517-V and EHD2 shRNA (m) Lentiviral Particles: sc-40518-V.

Molecular Weight of EHD2: 65 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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) 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.

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.