SANTA CRUZ BIOTECHNOLOGY, INC.

ASCL2 (G-16): sc-241196

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the myogenic determination family are basic helix-loop-helix (bHLH) proteins that can be separated into two classes, both of which work together to activate DNA transcription. Class A proteins include the ubiquitously expressed E-box binding factors, namely E2A, ITF-2 and HEB, while class B proteins, such as MyoD, myogenin and Neuro D (BETA2), are transiently expressed and exhibit a much more limited tissue distribution. Working in opposition to these positively acting factors are a specialized group of basic helix-loop-helix (bHLH) transcription factors that function as dominant negative regulators and are involved in cell lineage determination and differentiation. ASCL2 (achaete-scute complex homolog 2), also known as ASH2, HASH2 or MASH2, is a 193 amino acid protein that localizes to the nucleus and contains one bHLH domain. Expressed in developing placental tissue, ASCL2 binds to DNA and functions as a transcriptional regulator that is involved in the maturation of neuronal precursors in the peripheral and central nervous systems.

REFERENCES

1. Guillemot, F., Nagy, A., Auerbach, A., Rossant, J. and Joyner, A.L. 1994. Essential role of Mash-2 in extraembryonic development. Nature 371: 333-336.
2. Miyamoto, T., Jinno, Y., Sasaki, T., Ikeda, Y., Masuzaki, H., Niikawa, N. and Ishikawa, M. 1996. Genomic cloning and localization to chromosome 11p15.5 of the human achaete-scute homolog 2 (ASCL2). Cytogenet. Cell Genet. 73: 312-314.
3. Alders, M., Hodges, M., Hadjantonakis, A.K., Postmus, J., van Wijk, I., Bliek, J., de Meulemeester, M., Westerveld, A., Guillemot, F., Oudejans, C., Little, P. and Mannens, M. 1997. The human Achaete-Scute homologue 2 (ASCL2,HASH2) maps to chromosome 11p15.5, close to IGF2 and is expressed in extravillus trophoblasts. Hum. Mol. Genet. 6: 859-867.
4. Miyamoto, T., Jinno, Y., Miura, K., Sengoku, K., Soejima, H., Yun, K., Yaginuma, Y., Niikawa, N. and Ishikawa, M. 1998. A SacII polymorphism in the human ASCL2 (HASH2) gene region. J. Hum. Genet. 43: 69-70.
5. Miyamoto, T., Hasuike, S., Jinno, Y., Soejima, H., Yun, K., Miura, K., Ishikawa, M. and Niikawa, N. 2002. The human ASCL2 gene escaping genomic imprinting and its expression pattern. J. Assist. Reprod. Genet. 19: 240-244.
6. Shahib, M.N., Martaadisoebrata, D. and Kato, H. 2006. Detection of HASH2 (ASCL2) gene expression in gestational trophoblastic disease. J. Reprod. Med. 51: 892-896.
7. Jubb, A.M., Chalasani, S., Frantz, G.D., Smits, R., Grabsch, H.I., Kavi, V., Maughan, N.J., Hillan, K.J., Quirke, P. and Koeppen, H. 2006. Achaete-scute like 2 (ascl2) is a target of Wnt signalling and is upregulated in intestinal neoplasia. Oncogene 25: 3445-3457.
8. Lüscher-Firzlaff, J., Gawlista, I., Vervoorts, J., Kapelle, K., Braunschweig, T., Walsemann, G., Rodgarkia-Schamberger, C., Schuchlautz, H., Dreschers, S., Kremmer, E., Lilischkis, R., Cerni, C., Wellmann, A. and Lüscher, B. 2008. The human trithorax protein hASH2 functions as an oncoprotein. Cancer Res. 68: 749-758.

CHROMOSOMAL LOCATION

Genetic locus: ASCL2 (human) mapping to 11p15.5; Ascl2 (mouse) mapping to 7 F5.

SOURCE

ASCL2 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ASCL2 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-241196 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ASCL2 (G-16) is recommended for detection of ASCL2 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); non cross-reactive with other ASCL family members.

ASCL2 (G-16) is also recommended for detection of ASCL2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for ASCL2 siRNA (h): sc-96998, ASCL2 siRNA (m): sc-141297, ASCL2 shRNA Plasmid (h): sc-96998-SH, ASCL2 shRNA Plasmid (m): sc-141297-SH, ASCL2 shRNA (h) Lentiviral Particles: sc-96998-V and ASCL2 shRNA (m) Lentiviral Particles: sc-141297-V.

Molecular Weight of ASCL2: 20 kDa.

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.