

ASCL2 (S-14): sc-241198

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

- 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.
- 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.
- Alders, M., Hodges, M., Hadjantonakis, A.K., Postmus, J., van Wijk, I., Bliet, 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 extravillous trophoblasts. *Hum. Mol. Genet.* 6: 859-867.
- 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.
- 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.
- Shahib, M.N., Martaadisoebarta, D. and Kato, H. 2006. Detection of HASH2 (ASCL2) gene expression in gestational trophoblastic disease. *J. Reprod. Med.* 51: 892-896.
- 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.
- Lüscher-Firzlaff, J., Gawlista, I., Vervoorts, J., Kapelle, K., Braunschweig, T., Walsemann, G., Rodgarkia-Schamberger, C., Schuchlantz, H., Dreschers, S., Kremmer, E., Liliischkis, 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 (S-14) 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-241198 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ASCL2 (S-14) 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.

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.