

ASCL1 (h): 293T Lysate: sc-171675

BACKGROUND

The mammalian homolog of the *Drosophila* protein achaete-scute, ASCL1 (also known as ASH1) is a basic helix-loop-helix transcription factor that is required for early development of the nervous system. Expressed in fetal brain, ASCL1 is essential for the proper development of autonomic neurons and for the survival of subsets of autonomic neurons. ASCL1 interaction with MEF-2A may regulate the expression of specific genes that are critical for the formation of distinct neuronal circuits within the central nervous system. The high level of ASCL1 expression in neuroendocrine tumors, such as medullary thyroid cancer, small cell lung cancer and lung cancer with neuroendocrine features may provide a useful marker for cancers with neuroendocrine features. Mapping to human chromosome 12, the ASCL1 gene contains a trinucleotide repeat region, making this locus a candidate for inherited disease.

REFERENCES

- Lo, L.C., et al. 1991. Mammalian achaete-scute homolog 1 is transiently expressed by spatially restricted subsets of early neuroepithelial and neural crest cells. *Genes Dev.* 5: 1524-1537.
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- Clark, M.S., et al. 1995. Induction of a serotonergic and neuronal phenotype in thyroid C cells. *J. Neurosci.* 15: 6167-6178.
- Mao, Z., et al. 1996. Functional and physical interactions between mammalian achaete-scute homolog 1 and myocyte enhancer factor 2A. *J. Biol. Chem.* 271: 14371-14375.
- Chen, H., et al. 1996. Differentiation of medullary thyroid cancer by C-Raf-1 silences expression of the neural transcription factor human achaete-scute homolog-1. *Surgery* 120: 168-172.
- Chen, H., et al. 1997. Conservation of the *Drosophila* lateral inhibition pathway in human lung cancer: a hairy-related protein (HES1) directly represses achaete-scute homolog-1 expression. *Proc. Natl. Acad. Sci. USA* 94: 5355-5360.
- Pattyn, A., et al. 1999. The homeobox gene Phox2b is essential for the development of autonomic neural crest derivatives. *Nature* 399: 366-370.
- Persson, P., et al. 2000. HASH-1 and E2-2 are expressed in human neuroblastoma cells and form a functional complex. *Biochem. Biophys. Res. Commun.* 274: 22-31.
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STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: ASCL1 (human) mapping to 12q23.2.

PRODUCT

ASCL1 (h): 293T Lysate represents a lysate of human ASCL1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

ASCL1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ASCL1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

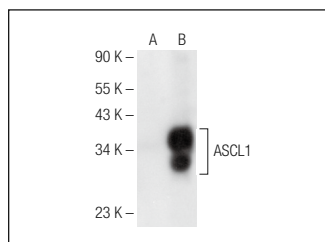
ASCL1 (G-9): sc-374550 is recommended as a positive control antibody for Western Blot analysis of enhanced human ASCL1 expression in ASCL1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

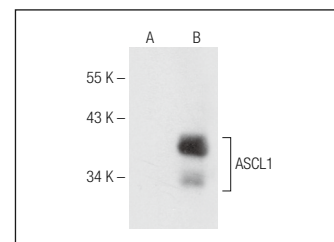
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



ASCL1 (G-9): sc-374550. Western blot analysis of ASCL1 expression in non-transfected: sc-117752 (A) and human ASCL1 transfected: sc-171675 (B) 293T whole cell lysates.



ASCL1 (D-7): sc-374104. Western blot analysis of ASCL1 expression in non-transfected: sc-117752 (A) and human ASCL1 transfected: sc-171675 (B) 293T whole cell lysates.

RESEARCH USE

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