

ASCL1 (D-7): sc-374104

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.
- Ball, D.W., et al. 1993. Identification of a human achaete-scute homolog highly expressed in neuroendocrine tumors. *Proc. Natl. Acad. Sci. USA* 90: 5648-5652.
- Clark, M.S., et al. 1995. Induction of a serotonergic and neuronal phenotype in thyroid C-cells. *J. Neurosci.* 15: 6167-6178.

CHROMOSOMAL LOCATION

Genetic locus: ASCL1 (human) mapping to 12q23.2; Ascl1 (mouse) mapping to 10 C1.

SOURCE

ASCL1 (D-7) is a mouse monoclonal antibody raised against amino acids 181-236 mapping at the C-terminus of ASCL1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-374104 X, 200 µg/0.1 ml.

ASCL1 (D-7) is available conjugated to agarose (sc-374104 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374104 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374104 PE), fluorescein (sc-374104 FITC), Alexa Fluor® 488 (sc-374104 AF488), Alexa Fluor® 546 (sc-374104 AF546), Alexa Fluor® 594 (sc-374104 AF594) or Alexa Fluor® 647 (sc-374104 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374104 AF680) or Alexa Fluor® 790 (sc-374104 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

ASCL1 (D-7) is recommended for detection of ASCL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

ASCL1 (D-7) is also recommended for detection of ASCL1 in additional species, including canine.

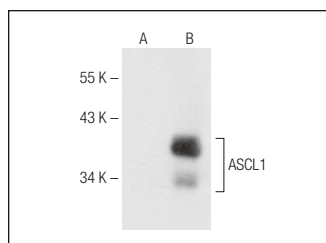
Suitable for use as control antibody for ASCL1 siRNA (h): sc-37692, ASCL1 siRNA (m): sc-37693, ASCL1 shRNA Plasmid (h): sc-37692-SH, ASCL1 shRNA Plasmid (m): sc-37693-SH, ASCL1 shRNA (h) Lentiviral Particles: sc-37692-V and ASCL1 shRNA (m) Lentiviral Particles: sc-37693-V.

ASCL1 (D-7) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

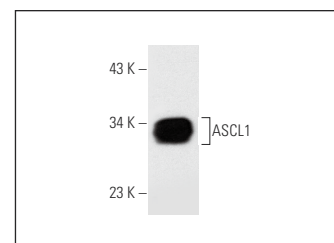
Molecular Weight of ASCL1: 35 kDa.

Positive Controls: ASCL1 (h): 293T Lysate: sc-171675, SHP-77 whole cell lysate: sc-364258 or C32 whole cell lysate: sc-2205.

DATA



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.



ASCL1 (D-7): sc-374104. Western blot analysis of ASCL1 expression in SHP-77 whole cell lysate.

SELECT PRODUCT CITATIONS

- Gomez, G.A., et al. 2019. WNT/β-catenin modulates the axial identity of ES derived human neural crest. *Development* 146: dev175604.
- Pearson, J.D., et al. 2021. Binary pan-cancer classes with distinct vulnerabilities defined by pro- or anti-cancer YAP/TEAD activity. *Cancer Cell* 39: 1115-1134.e12.
- Xu, J., et al. 2022. Spinal dl4 interneuron differentiation from human pluripotent stem cells. *Front. Mol. Neurosci.* 15: 845875.
- Pongor, L.S., et al. 2023. Extrachromosomal DNA amplification contributes to small cell lung cancer heterogeneity and is associated with worse outcomes. *Cancer Discov.* 13: 928-949.

RESEARCH USE

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