SANTA CRUZ BIOTECHNOLOGY, INC.

ASCL1 (G-7): sc-390794

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

1. 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.
2. 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.

CHROMOSOMAL LOCATION

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

SOURCE

ASCL1 (G-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 187-205 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-390794 X, 200 µg/0.1 ml.

ASCL1 (G-7) is available conjugated to agarose (sc-390794 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390794 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390794 PE), fluorescein (sc-390794 FITC), Alexa Fluor® 488 (sc-390794 AF488), Alexa Fluor® 546 (sc-390794 AF546), Alexa Fluor® 594 (sc-390794 AF594) or Alexa Fluor® 647 (sc-390794 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390794 AF680) or Alexa Fluor® 790 (sc-390794 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390794 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

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

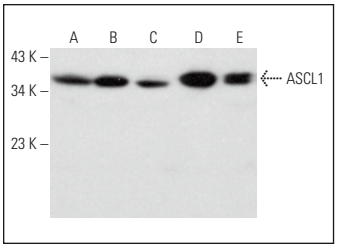
Suitable for use as control antibody for ASCL1 siRNA (h): sc-37692, ASCL1 siRNA (m): sc-37693, ASCL1 shRNA Plasmid (h): sc-37692-SH, ASCL1 shRNA Plasmid (m): sc-37693-SH, ASCL1 shRNA (h) Lentiviral Particles: sc-37692-V and ASCL1 shRNA (m) Lentiviral Particles: sc-37693-V.

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

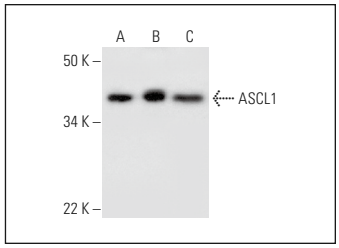
Molecular Weight of ASCL1: 35 kDa.

Positive Controls: C32 whole cell lysate: sc-2205, SHP-77 whole cell lysate: sc-364258 or H69AR whole cell lysate: sc-364382.

DATA



ASCL1 (G-7): sc-390794. Western blot analysis of ASCL1 expression in PC-12 (**A**), NCI-H460 (**B**), A549 (**C**), BYDP (**D**) and Neuro-2A (**E**) whole cell lysates.



ASCL1 (G-7): sc-390794. Western blot analysis of ASCL1 expression in C32 (**A**), SHP-77 (**B**) and H69AR (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kaur, G., et al. 2016. Bromodomain and hedgehog pathway targets in small cell lung cancer. Cancer Lett. 371: 225-239.
2. Roome, R.B., et al. 2020. Phox2a defines a developmental origin of the anterolateral system in mice and humans. Cell Rep. 33: 108425.
3. Gopal, P., et al. 2022. Multivalent state transitions shape the intratumoral composition of small cell lung carcinoma. Sci. Adv. 8: eabp8674.
4. 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.
5. Aljouda, N.A., et al. 2025. Transcription factor 4 is a key mediator of oncogenesis in neuroblastoma by promoting MYC activity. Mol. Oncol. 19: 808-824.

RESEARCH USE

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