SANTA CRUZ BIOTECHNOLOGY, INC.

Neurogenin 2 (2A8): sc-293430

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The Power to Question

BACKGROUND

The Neurogenin family of proteins belongs to the basic helix-loop-helix (bHLH) superfamily and consists of Neurogenin 1, Neurogenin 2 and Neurogenin 3 (also designated ngn3). bHLH members are transcriptional regulators that determine cell fate. During mouse neurogenesis, Neurogenin 1 and Neurogenin 2 are expressed in distinct progenitor populations in the central and peripheral nervous systems. Targeted mutation analyses showed that Neurogenin 1 is essential for the determination of neuronal precursors for proximal cranial sensory ganglia and that Neurogenin 2 is essential for the determination of precursors for epibranchial placode-derived sensory neurons.

REFERENCES

1. Ben-Arie, N., et al. 1996. Evolutionary conservation of sequence and expression of the bHLH protein Atonal suggests a conserved role in neurogenesis. Hum. Mol. Genet. 5: 1207-1216.
2. Tamimi, R.M., et al. 1997. NEUROD2 and NEUROD3 genes map to human chromosomes 17q12 and 5q23-q31 and mouse chromosomes 11 and 13, respectively. Genomics 40: 355-357.
3. Ma, Q., et al. 1998. Neurogenin 1 is essential for the determination of neuronal precursors for proximal cranial sensory ganglia. Neuron 20: 469-482.
4. Fode, C., et al. 1998. The bHLH protein Neurogenin 2 is a determination factor for epibranchial placode-derived sensory neurons. Neuron 20: 483-494.
5. Jacquemin, P., et al. 2000. Transcription factor hepatocyte nuclear factor 6 regulates pancreatic endocrine cell differentiation and controls expression of the proendocrine gene ngn3. Mol. Cell. Biol. 20: 4445-4454.
6. Gradwohl, G., et al. 2000. Neurogenin 3 is required for the development of the four endocrine cell lineages of the pancreas. Proc. Natl. Acad. Sci. USA 97: 1607-1611.
7. Schwitzgebel, V.M., et al. 2000. Expression of Neurogenin 3 reveals an islet cell precursor population in the pancreas. Development 127: 3533-3542.
8. Jensen, J., et al. 2000. Independent development of pancreatic α- and β-cells from Neurogenin 3-expressing precursors: a role for the Notch pathway in repression of premature differentiation. Diabetes 49: 163-176.
9. Huang, H.P., et al. 2000. Regulation of the pancreatic islet-specific gene BETA2 (neuroD) by Neurogenin 3. Mol. Cell. Biol. 20: 3292-3307.

CHROMOSOMAL LOCATION

Genetic locus: NEUROG2 (human) mapping to 4q25; Neurog2 (mouse) mapping to 3 G2.

SOURCE

Neurogenin 2 (2A8) is a mouse monoclonal antibody raised against amino acids 74-175 representing full length Neurogenin 2 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Neurogenin 2 (2A8) is recommended for detection of Neurogenin 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Neurogenin 2 siRNA (h): sc-42077, Neurogenin 2 siRNA (m): sc-42078, Neurogenin 2 shRNA Plasmid (h): sc-42077-SH, Neurogenin 2 shRNA Plasmid (m): sc-42078-SH, Neurogenin 2 shRNA (h) Lentiviral Particles: sc-42077-V and Neurogenin 2 shRNA (m) Lentiviral Particles: sc-42078-V.

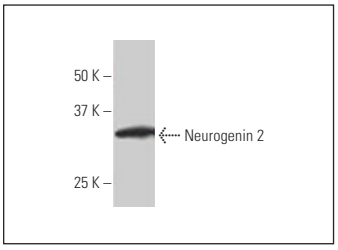
Molecular Weight of Neurogenin 2: 28 kDa.

Positive Controls: H9c2(2-1) whole cell lysate.

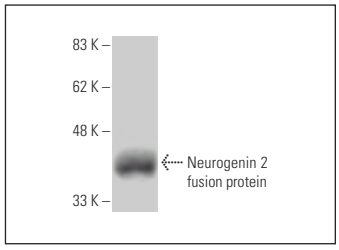
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Neurogenin 2 (2A8): sc-293430. Western blot analysis of Neurogenin 2 expression in H9c2(2-1) whole cell lysate.



Neurogenin 2 (2A8): sc-293430. Western blot analysis of human recombinant Neurogenin 2 fusion protein.

SELECT PRODUCT CITATIONS

1. Caffo, M., et al. 2023. Molecular investigation of DKK3 in cerebral ischemic/reperfusion injury. Biomedicines 11: 815.

STORAGE

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

PROTOCOLS

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